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UNESCO in a DECISIVE DECADE

UNITED STATES
NATIONAL COMMISSION
FOR UNESCO

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UNITED STATES NATIONAL COMMISSION FOR UNESCO
Washington, D.C. 20520

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Introduction

The Act of Congress which established the U.S. National Commission for UNESCO in 1947 might well have called on the Commission to give a periodic accounting of its activities to the President, or the Secretary of State, or the Congress, or the American people. The Act's failure to do so does not relieve the Commission of its responsibility to let the public know, from time to time, its major efforts, aspirations, and accomplishments.

While the present study is not intended to be such a report, it does offer an opportunity for the Commission to make public discussion papers by three of its members on subjects to which the Commission has given serious attention. Similar studies may be issued from time to time, and perhaps a system of regular reports or reviews of operations will evolve. I am therefore happy to present these papers with an account of activities covering the 2 years of my chairmanship.

It should be pointed out that the major function of the National Commission is to advise the Secretary of State on the program and operations of UNESCO, and to inform the American people about UNESCO and its activities. Our function is not to add to the plethora of reports which already flood the mails.

The world today is going through the most revolutionary period in its history. At the last biennial conference of UNESCO held in Paris in December 1962, 26 of the nations represented there did not exist when a similar conference met in 1958—4 years previously. This is to say that nearly one-fourth of the 107 delegations present were attending their first or second international conference. Membership in UNESCO has increased from 45 to 113 in the 18 years since 1945.

The current world revolution has been, up to the present, primarily political. With the demise of colonialism, people previously governed by someone else now govern themselves. Nevertheless, the vast majority of those people continue to be plagued by poverty and pressing educational problems. They are as poor and as illiterate as ever. Quantitative gains in literacy have been overshadowed by burgeoning populations, and illiteracy percentages are as high as they were before the war. Without ability to read and write, the human resources of the newly developing countries are wholly inadequate to the task of their own social and economic development.

Seven hundred million adults, or 44 percent of the world's population, according to the latest UNESCO survey, are illiterate today, and 52 percent of the world's children of school age are not going to school for lack of teachers and facilities. Current estimates by UNESCO indicate that of the 198 countries and territories in the world, 97 have an illiteracy rate of over 50 percent and 20 over 95 percent.

The emergence of the new African nations has intensified world attention to the problems of poverty and illiteracy. It has particularly increased American concern

with those problems, not only as regards Africa, but Latin America and Asia as well. On September 25, 1961, the President of the United States made a historic declaration to the United Nations General Assembly to the effect that "the mysteries of outer space must not divert our eyes or our energies from the harsh realities that face our fellowmen. . . . New research, technical assistance, and pilot projects can unlock the wealth of the less developed land and untapped waters," the President declared, "and development can become a cooperative and not a competitive enterprise—to enable all nations, however diverse in their systems and beliefs, to become in fact as well as in law both free and equal nations." Soon after the President's address the General Assembly responded with a series of unanimous resolutions setting goals for an unprecedented Decade of Development. This dramatic move provided further stimulus in 1962 to activities already under way in regional development planning in Latin America, Asia, the Middle East, and Africa designed to bring about universal primary education in the shortest possible span of time. These efforts are outlined in Dr. Branscomb's paper "UNESCO and Education."

Next to education, the natural sciences are responsible for the new surge of interest in UNESCO on the part of the underdeveloped as well as the more developed countries. There are a great many problems which can only be probed and many questions which can only be answered if scientists can work together regardless of national barriers. This is true of such pressing areas as earthquakes, conservation and management of water resources, and oceanography, which is the subject of Dr. Revelle's paper.

Another area of social and economic development closely tied to education is the educational media as made clear by Dr. Schramm. As part of the Development Decade, a broad program was approved in 1962 by the United Nations Economic and Social Council with priorities assigned to the development of radio broadcasting and news agencies in the developing countries.

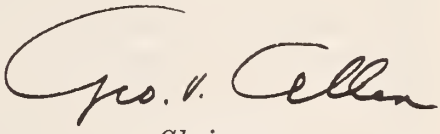
Although great emphasis has been placed on educational needs and scientific cooperation, the National Commission has continued to be concerned with UNESCO's cultural activities, for the organization still provides the most comprehensive introduction to inter-cultural studies and their promotion which the world possesses. Periodicals, books, translations, special studies, and art education provide knowledge of related happenings in all the nations. Today we recognize that a better understanding of foreign cultures, particularly non-Western, is a vital need in our country. The social and intellectual structure of mankind has changed. Americans no longer can—if indeed they ever could—afford to live on a cultural island.

The opportunities facing UNESCO in the Decade of Development require the best thinking and advice by American scholars, scientists, and artists so that the United States can bring its intellectual influence to bear on the UNESCO program and, in reverse, benefit from the participation of other countries. Some of this thinking appears in the papers attached hereto.

One further thought. UNESCO was established primarily as a means of increasing international understanding, in the hope and belief that this would lead towards a world free from war. Those who wrote the UNESCO charter had no idea that before two decades had passed,

UNESCO's chief activity would have become technical assistance—to help underdeveloped countries increase and improve their educational, scientific, and cultural standards. Some observers regret this change in UNESCO's emphasis. The U.S. National Commission is aware of the danger that UNESCO may become merely another aid agency. We are determined to do what we can to prevent this happening. At the same time, we recognize the necessity and requirement of the times. UNESCO must not only survive the 20th century. It must give guidance and leadership to the revolutionary.

The tasks facing UNESCO will require even greater American participation and know-how than has been hitherto provided. The National Commission, as the effective link between government and non-government interests in UNESCO, must intensify its efforts to draw upon the best in the intellectual and cultural life of our country. It will also need the firm support of the colleges and universities in this country and the many voluntary organizations interested in international affairs. Only thus will the Commission continue to convey to our Government and to UNESCO the educated judgment which in a free society must mold broad policies. Thus can it also ensure that the American public understands the wisdom and necessity of American participation in the international aspects of education, of science, and of culture.



Chairman
U.S. National Commission for UNESCO
October 1963

UNESCO and Education

By Harvie Branscomb

The first of the three definitive words in UNESCO's impressive title is Education. Education, furthermore, has been officially declared to be the area of primary interest and concern for the Organization.

The condition or state of education in virtually all of the countries of the world is now well known. No country, no matter how well developed, is fully satisfied with its educational achievements, and probably never will be. This is because education is both realistic and idealistic at the same time—the former, because it must serve the contemporary needs and functions of society, the latter, because its ultimate aim is to develop the individual to the fullest and to create a better society. There are thus intrinsic and continuing tensions in education between the inherited tradition and the present need, between the demands of the moment and hopes for the future, between the claims of the individual and the needs of society.

• *Dr. Branscomb is the chancellor emeritus of Vanderbilt University and a former educational consultant to the World Bank. He was elected chairman of the U.S. National Commission for UNESCO in October 1963.*

None of us is wise enough to resolve these problems completely. While all educational barks thus sail on seas which can never be fully charted, and the mature as well as the developing countries have their educational problems, the massive and dominating problem of our day, if one looks at the whole of education, is the lack of adequate education in so many countries of the world.

DEVELOPING NATIONS COMPRISE TWO-THIRDS OF THE WORLD

The so-called developing nations comprise, if one excludes for the moment the Communist bloc, slightly more than two-thirds of the world's population. In these countries half or more of the children are receiving no formal schooling, and are thus condemned for the most part to illiteracy. The figures vary of course from country to country. In Asia—at least for the countries engaged in the Karachi plan—the above 50 percent figure is in line with the latest reports. In Africa, the total of those in school falls much below the 50 percent figure. For Latin America a recent study reports 68 percent of the age group enrolled in primary schools, but this number is cut in half by the time Grade IV is reached and reduced to 11 percent of

the age group as regards those who complete the six primary grades.[1]

These broad statistics become more meaningful perhaps if one looks at a country like our neighbor to the south, Mexico, a country which is well in the lead of other Latin American countries in so many respects. In Mexico two-thirds of the children of primary school age are reported as enrolled. This enrollment is heavily concentrated, however, in the cities and towns. Half the children in rural districts have no schools to which they can go, and as late as 1960 three-fourths of the schools which are in the rural districts did not go beyond the third grade.[2] The writer once asked a Mexican boy about 14 years of age who had attended one of these schools why he was not still in school. "I can already read," was his indignant reply. Further acquaintance, however, made it clear that his mastery of the art was minimal. Such children figure in the enrollment statistics, but most of them will become at best adult semi-illiterates.

Since this lack of schools is not new, it is inevitable that the figures for adult illiteracy should be high. The Santiago conference estimated that 40 percent of the adult population of Latin America is illiterate. In some countries of the world the figure goes up to 50 percent and in some cases even to 75 or 80 percent. It is a frightening fact that in some countries the illiteracy rate has actually increased in the last two decades due to the combination of a population explosion and a shortage of schools.

[1] See the forthcoming volume by Anisio Teixera and Harold Benjamin, prepared under the auspices of the Council on Higher Education in the American Republics (CHEAR) group.

[2] I am indebted to F. F. Hill's address to the Third National Conference of the Canadian National Commission on UNESCO for these figures on the rural schools.

LACK OF EDUCATION IS BARRIER TO DEVELOPMENT

The implications of this educational deprivation are plain to see. To the countries involved it constitutes a barrier not only to technological development but even to the use of the products of technology. The boy who cannot read the label on a can of insecticide may waste the chemicals, damage his plants, and even poison himself. To the more advanced countries the educational lag constitutes a drag not only on the expansion of international trade and other economic relationships, but also on efforts toward international cooperation in other areas. For cooperation depends upon effective communication, and on a broad understanding of the issues which confront the modern world.

Happily there is another side to this picture. This is the popular demand in all countries that education be made available universally and immediately. The demand may be vague, and charged with expectations which are unrealistic. It is, nevertheless, one of the few major issues on which the people in the developing countries are united. These people want many things—better standards of living, better health, and a national place in the sun, and they are convinced that education is the path to these goals. The "revolution of rising expectations" is without clear direction, but its educational component can provide direction. The question—Education for what?—can be given an answer. The transformation of people by means of education can become a planned, even a calculated and scheduled revolution.

The above remarks deal with educational deficiency in numbers or volume. In situations where this exists there are

to be found also of course most of the problems of content, method, and quality with which the more developed countries must deal. There is, however, the difference that in the more mature countries efforts at change usually face ingrained resistance and established vested interests. In the less developed countries the commitment to change is more recognized and the way more open. But this is balanced by the plethora of problems which press for solution all at once, and by the multiplicity of patterns which the more advanced societies offer.

This great need for education in so many countries has challenged the interest and the resources of the developed countries and assistance has been forthcoming from many sources. This aid has been uncoordinated, and in some cases, uninformed. There is, however, a growing recognition of certain general principles which govern assistance to education in the developing countries.

INTERNATIONAL AID SUPPLEMENTS NATIONAL RESOURCES

One of these is that the role of external aid is to provide supplemental support, not the basic costs. This the developing countries themselves have fully recognized, and in the Karachi, Addis Ababa, and Santiago conferences they have called upon the participating countries to appropriate as soon as possible 5 percent of the gross national product for education. This is generally regarded as a reasonable, and in Western countries, an adequate figure. It is encouraging to note that a calculation of the combined Gross National Product (GNP) of the undeveloped countries, the Communist bloc excluded, shows that a 5 percent allocation for education would carry the full costs of the Karachi, Addis Ababa, and Santiago programs, with some expansion of the first of these into levels above the primary school, and with a 15 percent addition to take care of the needs of those undeveloped countries which were not included in the several plans.[3]

The calculation is chiefly useful, however, as providing a standard and goal toward which the developing countries can work, and in giving perspective to the whole undertaking. There is no question of the need for supplemental aid. The Gross National Product is not evenly distributed among the various countries, the allocation of this portion of the national income for education is far from being realized, and the educational objectives to which these figures are applied are minimal goals, to be achieved 10 and 20 years hence. But supplemental aid, in the nature of the case, must be selective, which is to say that the most careful study of ways and means of making the assistance as effective and useful as possible is a first responsibility of all organizations and institutions interested. The achievement of some broad consensus as to the strategy of external aid is an increasing need. Only then can the coordination of external assistance, which is so widely recognized as needed, be brought about.

A second general principle on which there is growing agreement is that no crash program can do this job. Education does not consist of a number of separate pieces, the various parts of which can be attacked and completed separately.

[3] For the combined GNP of the undeveloped countries see Rosenstein-Rodan in *The Review of Economics and Statistics* for May 1961. The application of these figures to the major educational programs referred to was worked out by the staff of the Atlantic Institute. After 1965 it is estimated that 6 percent of the GNP would be needed.

Schools, teachers, administrators, buildings, equipment, books are all parts of a single undertaking. Progress must go forward in balanced steps. Even the teaching of adult illiterates cannot be isolated to itself. Once the adult begins to read there must be books or other forms of literature to be read, and these must be pertinent to his interests and recognized needs. This interrelated character of the processes and materials of education means that progress must be planned in steps and in balance. And it will not be accomplished quickly, or by a single capital grant, however large. It takes from 10 to 15 years, for example, depending upon the degree of skill desired, to train a teacher.

LACK OF LEADERSHIP IS BOTTLENECK

A third general principle is that the great bottleneck is not so much money as it is individuals able to provide the local leadership which is necessary. In all of the developing countries funds have been vastly increased in the last several years, and even if no foreign aid should be available, they will be multiplied in the decade ahead. Latin American countries, for example, on the reasonable expectation of a 10 percent annual increase in their educational budgets, will spend on education approximately $25 billion of their own money in the next decade. Ideas, a sense of direction, and technical know-how are what is most needed. Assistance to these ends is of the first priority.

A fourth principle which is coming to be recognized is one whose application is especially difficult. It is the conviction that patterns of education, developed in relatively wealthy and highly organized countries, should not be exported unchanged to societies radically different in character and in means. The United States is currently spending about $125 per capita on education in all of its forms, which is approximately 5 percent of our Gross National Product. But $125 per capita exceeds the total national income of many of the developing countries.

The comparison is of course debatable at many points, but the fact remains that Asia, Africa and Latin America are going to have to find ways of educating their primary and secondary pupils at far less than the $432 per pupil which is the current cost in the U.S.A. Quite apart from costs, the principle still holds. Plans most successful in one country may not work in another. Adjustment, adaptation, innovation in education will be essential in the new societies. The difficulty in this thesis is equally obvious—a country can export only what it has to export, what it has tried and found useful. To do otherwise is to place on the receiving country the costs, risks, and delays of a trial and error process. The only answer to this dilemma would seem to be to maintain the spirit of innovation and adaptation in all programs of educational assistance to developing countries. External aid programs should earmark part of their funds for experiment or research. In the long run we will learn enough from this which will be applicable at home to justify the expenditure.

Such a list of some of the things that we are learning about the expansion of education in new societies could be continued at length but space does not permit. What is the role of UNESCO in this revolution of cultures? How has UNESCO applied her resources?

In the first place UNESCO has wisely determined that its primary function is not to serve as an aid agency—although it does administer large sums from the U.N. Special Fund, the Technical Assistance Fund, and other agencies. Its first and major

service has been and assuredly is to give guidance and direction to the educational movement in the developing countries. The Addis Ababa-Paris, the Karachi-Tokyo, and the Santiago conferences, which have laid the basic charters for educational development in their continents, were all held under UNESCO sponsorship in whole or in part. It has provided technical assistance for many purposes.

Especially useful and important has been its emphasis on careful planning for the development of national educational systems, planning which will avoid the wastes to which hurriedly devised undertakings are prone. So useful have these planning bodies proven that UNESCO has now established in Paris the International Institute for Educational Planning, the purpose of which is to prepare individuals to assume this responsibility in their respective countries, and also to develop guidelines and other data useful for the planning function. This Institute under the leadership of Mr. Philip Coombs will begin its work this fall. The importance of planning, as well as the need for trained personnel in the educational field, have led to the establishment of several regional centers, the Center for Educational Planners, Administrators, and Supervisors at New Delhi, the Regional Center for the Training of Teacher Educators at Manila, and a Centre for Training Senior Educational Personnel at Beirut. It has also established a Regional Office for Education at Bangkok.

In the light of the prospective expenditure of millions of dollars for the construction of school buildings in the next decade UNESCO held at London, in conjunction with the National Commission on UNESCO of Great Britain, an international Conference on School Construction, one result of which was the decision to establish or strengthen centers on school design and construction at Khartoum, Bandung, and Mexico. At the request of the countries involved, teams have been sent to study in the field the educational problems of particular countries and to make recommendations as to the steps which should be taken first. The reports of these survey teams have served as a basis in most instances for requests for external aid. Two centers have been supported for Education for Community Development, one near Cairo, and one in Mexico. All of these undertakings rest on the assumption that UNESCO can best help by pooling the ideas and experience of all countries in the field of education for the guidance of those whose tasks in the next decade are so great.

SURVEY OF ILLITERACY VOTED

A particularly important action of the current year was the decision of the General Assembly to undertake a 2-year world survey of adult illiteracy. A committee of experts is to be set up, and meetings and workshops of specialists arranged, with the expectation of submitting the survey with recommendations for action to the next General Assembly.

Education, on a worldwide basis, is a very broad field, and the UNESCO program has grown to include many services and activities which cannot be enumerated in a short report or comment of this sort. As stated above, it serves as the executive agency for numerous projects for the U.N. Special Fund and U.N. Technical Assistance. In Latin America activities are centered on the expansion of primary education; in Asia, on teacher training; in Africa, on aid to individual states in educational planning and on teacher training, especially in the secondary field. But the program includes such diverse activities as

the establishment of a center for the printing of school textbooks at Yaoundé in the Cameroon; the supply of teachers to 20 countries, especially to Algeria; and experiments in the use of mass media in education in Africa.

The U.S. National Commission has followed with much interest these activities and interests, and has engaged, through its Education Committee, in lengthy discussion of some of the issues and problems. At the Pittsburgh meeting it adopted a number of specific recommendations for strengthening the teaching of international relations in American colleges and universities, and for facilitating the recruitment and use of specialized academic talent in work overseas. At the April meeting in Washington it discussed the world survey of the problem of illiteracy and recommended a broad and thorough approach rather than a quick, superficial, albeit worldwide, attack upon the problem.

On the issue of UNESCO subventions to a number of nongovermental agencies, the Commission recommended the continuation of the present limited program but urged that this support take the form wherever feasible of contracts for specific services. On the expansion of the number of regional centers for the study of school architecture and school construction problems, it recommended a central clearinghouse for information in this field to be set up within the UNESCO Department of Education, rather than the establishment of another institute with world responsibilities, and advised against establishing additional regional centers until the usefulness of the three centers already approved had been demonstrated. It received and endorsed the report of a special conference on the use of new educational techniques, one which urged coordination and expansion of efforts in this direction, in order to meet the massive task of providing education for many millions of children and adults, particularly in Africa.

The Education Committee of the National Commission has also given some attention to the UNESCO program as a whole. The view has been expressed that the program, developed as it has been in response to stated needs of the developing countries, could nevertheless profit from further sharpening of its content and direction. Among the multiple needs to which UNESCO has addressed itself some can be met better than others, and greater selectivity in programing is desirable. While any curtailment will be difficult and painful, concentration on areas of clear priority could bring compensating satisfactions.

As regards the establishment of additional centers and institutes, some members of the committee felt that the organization would be wise to proceed more cautiously, with greater attention to such questions as the adequacy of the financing for the task undertaken, definition of the length of UNESCO financial support, and the willingness of governments or other agencies to assume some responsibility for continuation of the project, if this should prove desirable. UNESCO's great usefulness and indispensable services in many fields, it is felt by some members, had created certain problems, which might be summed up in the thesis that perhaps the organization might wisely concentrate on a more limited number of areas with the purpose of serving them better.

UNESCO and the World Ocean

By Roger Revelle

OCEANOGRAPHY AS A SCIENCE

Oceanography is the study of the part of the earth that is covered with sea water. This is a very large part—71 percent of the surface of our globe; as a consequence, oceanography is a planetary science concerned in many ways with the earth as a whole. One of its questions is why the earth has such large quantities of liquid water, unlike all the other planets of our solar system.

The Motions of the Waters

The oceans are restless—every drop of sea water in the world is constantly in motion. Oceanographers try to find out how these motions occur, what drives the water particles, and what forces resist their movement. There is a great variety of motions, from the ever-changing waves on the surface to the sluggish currents deep within the sea; from the majestic flow of great ocean rivers, such as the Gulf Stream in the Western Atlantic and the Black Current off Japan, to the swift tidal streams of harbor mouths. Much of the motion is swirling and irregular, like smoke slowly drifting, but in all cases the water particles follow nearly horizontal paths. This is so because, on a planetary scale, the oceans are only a thin film over the globe. This film itself is divided into thinner films overlying one another and separated by differences in the density of the water.

One might suppose that the continual motion of the waters would result in a thorough mixing, so that the oceans would be the same everywhere. In fact, this is not the case. Other processes bring about differences between water masses, and these differences are maintained by the layering, or stratification, of the sea. If one takes a sounding off Hawaii he will find, a mile beneath the tropical surface, water with a temperature close to freezing. This water sank from the surface near Antarctica, thousands of years ago; since that time it has retained its Antarctic temperatures as it slowly traveled to the North Pacific.

The Ways of Life in the Sea

The differences in the properties of the waters are reflected in variations of fertility between different parts of the sea. Off Peru, in a strip of ocean a hundred miles wide and a thousand miles long, the water near the surface forms a green

• *Dr. Revelle is University Dean of Research, University of California at Berkeley and vice chairman of the U.S. National Commission for UNESCO.*

permanent pasture, as productive for animal life as the blackest soil of Iowa. In the central basins of the North Atlantic and the North Pacific, the purplish blue color and the clarity of the waters show that they are an oceanic desert, nearly as barren as the Sahara.

The oceans are a gentle physical environment for living things, and life on earth probably began in shallow seas about 2 billion years ago. Today there are hundreds of thousands of different kinds of sea creatures, ranging from the microscopic plants of the open sea and the grasses and algae of shallow waters, which are the basic food supply for all marine animals, to the giant whales—the largest animals that have ever lived. Between these extremes is a web of life in which most animals are both predator and prey, and the final fate of all is to be food for bacteria. But life in the ocean is more than a relentless search for food and a desperate avoidance of enemies. Some species of shrimps and small fishes live by providing services to others. These "cleaners" of the sea swim in and out of the mouths and through the gill slits of their clients, removing and eating parasites and disease-causing debris.

Biologists since the time of Aristotle have been fascinated by the wonderful complexity of the ways of life in the sea. Research on the physiology, life histories, distribution, behavior, and evolution of marine organisms forms one of the classical fields of biology. The need for biological knowledge is greater today than ever before, because of the rapid expansion of fisheries throughout the world ocean. Since World War II, the living harvest from the sea has doubled, from 20 million to more than 40 million tons a year, and it must double again within the next two decades. Otherwise, by 1980, most of the people in the world's poor countries, particularly the children, may suffer from a crippling deficiency of animal protein in their meager diets.

The Earth Beneath the Sea

During the last 15 years, studies of the sediments and rocks beneath the deep sea have yielded revoluntionary insights into the history of the earth. The earth's crust is thin under the oceans, and the great mass of rock called the mantle, which makes up most of the body of our planet and encloses its molten core, is easier to study at sea than on land. By mapping the shape of the sea floor and measuring variations in the force of gravity, the earth's magnetic field, the heat coming from the interior, and the acoustic properties of the rocks, we are beginning to get a picture of the processes that have shifted the continents and shaped the ocean basins. It now appears that the mantle rocks beneath the ocean are slowly churning in great cylindrical wheels thousands of miles in diameter. Some geologists believe that many times during the lifetime of our planet the suboceanic rocky crust has been renewed by giant volcanic eruptions.

The Oceans as Highways

The high seas both divide and unite the nations of mankind. With the growth of industrialization, the entire world storehouse of raw materials is being drawn upon to meet the needs of the new machines, and as a consequence shipborne commerce is increasing. Yet there has been little change in the efficiency of shipping. Ocean freight costs are a continuing drain on the world's economies, especially those of the poor countries. Though many factors are involved, one way to lower shipping costs is to apply new knowledge about ocean waves and weather

and the contours of the ocean floor. By routing its ships along the most favorable paths for waves and winds, the U.S. Military Sea Transport Service reduced the average times of transocean voyages by about 10 percent; better oceanographic knowledge could lead to even greater reductions.

The Sea and the Air

Most of us were taught in our school geography that the mild climate of northern Europe is due to the warm Gulf Stream off the coasts of Great Britain and Scandinavia. Modern meteorologists have shown that the real situation is far more complex. But it has become increasingly clear that the oceans and the atmosphere are closely interrelated. A major part of the energy of storms does not come directly from the sun, but is transmitted to the air through the ocean. Water vapor rises from the sea in air heated by contact with the warm ocean surface. As the rising air cools, the water vapor condenses, releasing its latent heat, and the air expands and rises still further. The density distribution in the air is thus grossly perturbed. This is the major cause of the large, nearly horizontal motions we call winds. Enormous amounts of energy enter the air in this way, and under the constraints exerted by the rotation of the earth cause the hurricanes of the tropics and the cyclonic storms of mid-latitudes. The winds in turn set in motion the surface current of the sea. In doing so they determine the locations of the warm water masses that are the principal regions of evaporation, and hence of energy transfer from the sea to the air. Thus the ocean and the atmosphere form an interacting system on a very large scale.

INTERNATIONAL COOPERATION IN OCEANOGRAPHY

The high seas belong to no man and to no nation, yet they are used by many men and many nations. Just as all men breathe the same air, and a storm over New England may have begun off Japan, so the ocean waters are indivisible, and events in one part of the sea eventually have profound effects at great distances. The scientific study of the sea is not only a natural field of international scientific cooperation, but such cooperation is necessary if human understanding of the oceans is to keep pace with human needs.

International cooperation in oceanography is not an end in itself. It should be undertaken only when the sum of scientific, political, and economic benefits exceeds the costs. These objectives cannot be separated in practice. Scientific cooperation will not be effective for any purpose unless it is good science; governments are unlikely to support it unless it serves economic and political purposes as well as scientific ones. Nevertheless, it is useful to summarize the scientific problems of the oceans that are best suited to attack through international cooperation.

Speeding up Exploration

Over very large areas, the ocean waters, their populations of living things, and the underlying sea floor very little is known. During the past hundred years, a few research and survey vessels have made exploratory traverses across the South Pacific, the Arctic, the Tropical Atlantic, and the Indian Oceans. These have given some knowledge of the kinds of animals and plants and the gross features of the bottom topography. But powerful new tools of oceanic exploration have recently been developed and have hardly been used

in these remote regions. What is needed is a massive assault on the unknown areas by modern oceanographic ships of several countries, working in close coordination. The International Indian Ocean Expedition, and the International Cooperative Investigations of the Tropical Atlantic, are ambitious examples of such cooperative efforts. These are described in another section of this article.

Intercalibration of Methods

In order to make maps of the distribution of physical and chemical properties in the sea, the sizes of marine populations, and the characteristics of the sea floor, we need to be sure that the measurements made by oceanographers in different countries are comparable and the sampling methods are similar. International agreement must be reached on just what is being measured and on the accuracy of the measurements.

Synoptic Studies of Air-Sea Interaction

Changes in world weather patterns over periods of weeks to many years are closely related to changes in the temperature of the ocean waters. Measurements at many points over vast areas are required to study these changes in the sea and the air. At the present time, no nation by itself has enough research ships or oceanographers to make all the needed measurements. Cooperation among oceanographers and meteorologists of different countries is essential.

Fluctuations in Sea Level

Many other oceanic phenomena also occur on an oceanwide or global scale. Examples are the tides, and the seasonal and year-to-year rise or fall in sea level. To understand sea level fluctuations, tide-gauge measurements must be made over long periods at many places, including remote locations where tide gauges are not normally maintained. International planning and cooperation are needed to develop a worldwide network of measuring stations.

Deep Sea Sediment Thickness

Seismic refraction studies during the last 15 years have yielded much information about the average thickness of sediments under the deep sea floor. This method gives only averages for lines 30 to 70 miles long, and it is so cumbersome that widespread coverage could not be achieved in the near future.

A newly developed technique of obtaining an echo from the rocky surface beneath the sediments permits a continuous cross section of sediment thickness from a vessel under way at several knots. This method has already provided data along 200,000 miles of track, with the startling result that large variations are observed in the thickness of the sediment layer. These variations have not yet been explained.

The echo method could be easily used on ships of many nations to give worldwide coverage, and an international cooperative program would be of great scientific value.

Censuses in the Ocean

Individual species of the fishes and invertebrates of the high seas are widely distributed—some of them wander over great distances—and their distribution and abundance change with changes in the oceanic environment. To find the sizes and distribution of these populations and their interrelationships is important to the rapid development, and indispensable for the conservation, of world fisheries. Inter-

national cooperation among marine biologists is needed on a systematic basis.

Deep Sea Mapping

Systematic, detailed maps of the ocean floor would have many scientific and other values. But the task of making such maps will require the continuous operation over several decades of a dozen or more highly equipped vessels and an international navigation network. If this great task could be shared among all interested countries, the expenses to any one country would not be burdensome.

Phenomena of Special Areas

Oceanographers throughout the world are interested in many phenomena that occur only in limited areas near the coasts of a few countries. Examples are coral atolls; deep sea trenches and volcanic island chains; boundary currents on the western sides of oceans, such as the Gulf Stream and the Black Current, or Kuroshio; and the monsoon reversals of winds and currents in the Indian Ocean and the South China Sea. In studying these phenomena, cooperation among oceanographers of the neighboring nations and of more distant countries can produce large scientific benefits. On the Continental Shelves, an international convention requires that scientists from other countries ask permission of the coastal state before beginning an investigation.

Data Exchange

Both theoretical studies and description of large-scale ocean processes demand compilations of observational data on an ocean-wide or global scale. These data need to be quickly and easily available to all interested scientists. World data centers equipped to collect, store, and retrieve oceanic data have already proven useful, and continuing international cooperation in the operation of such centers is highly desirable.

Exchanges Between Individual Scientists

All the above kinds of cooperation depend on international arrangements among governments or scientific bodies. In many ways, however, the most satisfactory and useful kinds of international oceanographic cooperation are simply the exchange of ideas and techniques between individual scientists of different countries, which occur through visits to each other's laboratories or participation in cruises on each other's ships, and through coming together in international scientific meetings.

Benefits and Costs of International Cooperation in Oceanography

From the above discussion, the scientific needs for international cooperation are clear. But these must be balanced against the costs, not only in money, but in the diversion of scarce scientific personnel from theoretical and experimental research and from work on smaller scale problems of primary interest to individual countries. The mechanisms of international cooperation are always clumsy, demanding a great deal of time on the part of many people.

Other benefits, besides scientific benefits, can also be balanced against the costs. These are the increases in international understanding that result from both the planning and operational parts of cooperative efforts; benefits to national prestige; and assistance in the scientific and economic progress of the less developed countries.

An oceanographic ship in a foreign port, dedicated to advancing human knowledge,

is one of the best ways of increasing public appreciation of the unity of science. By fostering scientific cooperation between oceanographers of the U.S.S.R. and the United States, we are learning ways of finding agreement between citizens of the two countries; by working with the Japanese, we are gaining greater mutual understanding of the social and economic constraints that affect the thought and action of American and Japanese scientists.

THE ROLE OF UNESCO

Throughout the last decade, UNESCO has played an important part in the worldwide development of oceanography. An international advisory committee on marine sciences was formed in 1955, with members from nine countries. This committee met each year in different parts of the world—Tokyo, Lima, Santiago, Bangkok, Paris, New York, Copenhagen, Honolulu—to encourage and stimulate scientists and their governments in the study of the oceans. At the same time, through its support of the International Geophysical Year (IGY), UNESCO helped oceanographers in many countries to plan and carry out cooperative research programs.

The International Indian Ocean Expedition

The success of the IGY led to a desire among oceanographers to continue international cooperation in research and surveys, and a new committee was formed, with UNESCO support, by the International Council of Scientific Unions. This Special Committee on Oceanic Research concluded that an international effort should be undertaken to explore the Indian Ocean, and it organized a series of cruises by some 40 ships from 15 different countries. These cruises, collectively called the International Indian Ocean Expedition, began in 1960 and will continue through 1965. It is already certain that by the end of this period our knowledge of the biology, physics, chemistry, and geology of the Indian Ocean will have increased tenfold, with great consequences to the growth of fisheries and improvements in weather forecasting for the bordering countries. UNESCO made arrangements with the countries around the Indian Ocean to grant necessary privileges and immunities to the ships of the Expedition. It provided instruments and other equipment to enable the scientists of these countries to participate, and arranged for fellowships and other kinds of training for young marine scientists. It arranged and gave supplemental financial support for the many planning meetings required to get the Expedition under way. It established an Indian Ocean Biological Center at Cochin where the Expedition collections are being sorted and systematically handled. With financial support from the U.N. Special Fund, UNESCO helped to set up the Indian Ocean Meteorological Center at Bombay, which is using the observations of the Expedition ships, as well as those from island stations, to prepare daily weather maps of the entire Indian Ocean. Through the new Intergovernmental Oceanographic Commission and its own Office of Oceanography, UNESCO has now assumed responsibility for continuing coordination of the research ship operations and the working up of the scientific results of the Expedition.

A Congress at the United Nations

UNESCO had a central part in making possible the first International Oceanographic Congress at the U.N. headquarters in 1959. Here 1,500 scientists from more than 40 countries, representing all branches

of marine science, joined together to exchange ideas, results, and aspirations. A second Congress will be held in Moscow in 1965, also with assistance by UNESCO.

The Intergovernmental Oceanographic Commission

One of the outstanding results of the IGY was the development of a method for supporting international cooperation in research. Financial and intellectual support for the scientific work conducted by citizens of each participating country was provided by the government of the country, and the role of the international organizations was essentially a coordinating and stimulating one. The international scientific community acted through its constituent national scientific committees in persuading each government to allocate funds for its own part of the program. In consequence a relatively small amount of international funds produced a very large amount of national effort.

This method has been adopted in international oceanographic work through the establishment of the Intergovernmental Oceanographic Commission under the aegis of UNESCO. Forty-five nations have become members of this Commission, signifying their willingness to work together in the cooperative study of the oceans. The Director of the UNESCO Office of Oceanography is the Secretary of the Commission.

Because of the high cost of operation of research vessels, the study of the world oceans must be heavily supported by governments. But at the same time the diversity of viewpoints and the unexpected insights of individual scientists need to be given free play. Hence the programs of the Intergovernmental Oceanographic Commission are being based as far as possible on plans arising from the ideas of scientists. This has been accomplished by making the Special Committee on Oceanic Research, which is appointed through the scientific bodies of the different countries and through the international scientific unions, the advisory body to the Commission. It has been given responsibility for formulating and outlining modes of attack on world oceanographic problems, and these in turn form the basis of agreed Commission programs.

The first meeting of the Intergovernmental Oceanographic Commission was held at UNESCO House in Paris in September 1961. The United States, the U.S.S.R. and the United Kingdom were strongly represented, as were thirty other maritime countries. A second general assembly took place in the fall of 1962 and a third will be held in June 1964. Perhaps the outstanding accomplishment of the first two meetings was a unanimous agreement to exchange, through World Data Centers in Washington and Moscow, a wide variety of oceanographic measurements made by the high seas research vessels of all the member countries. Information is also being exchanged about plans for expeditions, new kinds of equipment, and opportunities for participation in expeditions by foreign scientists. The Commission has agreed with the World Meteorological Organization on the need for assignment of radio frequencies for oceanographic and meteorological work at sea, and the two intergovernmental organizations are jointly seeking allocation of a microwave band from the International Telecommunications Union. A legal and technical basis is being laid for changes in the Law of the Sea needed to protect networks of scientific buoys anchored in deep water, and to safeguard shipping from collisions with the buoys. Soviet, Australian, and American ships have been brought together to compare their meth-

ods of chemical analysis and biological sampling. Scientists of Japan, the United Kingdom, Canada, and other countries took their instruments aboard the ships and participated in these intercalibration studies.

International Cooperative Investigations of the Tropical Atlantic

Following a suggestion by the United States delegation, the Commission organized a series of International Cooperative Investigations of the Tropical Atlantic. The work at sea began during the winter and spring of 1963. Thirteen ships from seven nations took part—four from the United States, three from the U.S.S.R., two from Brazil, and one each from Argentina, Nigeria, the Republic of the Ivory Coast, and the Republic of the Congo-Brazzaville. Scientists of the different countries worked on board each other's ships with oceanographers from the United Kingdom, Venezuela, and West Germany. The ships made roughly simultaneous north-south cross sections of the equatorial sea from the Gulf of Guinea to the mouth of the Amazon. Each of these sections was about twelve hundred miles long, and the total area covered was considerably bigger than the United States.

New Proposals

Japan, North Korea, and the Philippines have suggested a similar cooperative investigation of the Kuroshio, the Western Pacific counterpart of the Gulf Stream; the Commission will hold a planning meeting to organize these studies in October 1963. A far more ambitious program has been proposed by the Soviet Union. This would involve use, for a 2-year period, of about half of all the oceanographic ships afloat, to make "synoptic" (roughly simultaneous) measurements of the ocean currents and the water properties from the surface down to great depths throughout the North Pacific and the North Atlantic. Such a survey would provide oceanic weather maps of the northern hemisphere, which could be compared with atmospheric weather maps to study the global interactions between the sea and the air. A good deal of research is necessary before such a comparison could be very useful, and consequently action on the Soviet proposal remains a long-range goal.

Technical Assistance in Development of Marine Sciences

Beside its function as the central administrative staff for the Intergovernmental Oceanographic Commission, UNESCO's Office of Oceanography provides various kinds of technical assistance to the less developed countries. These have included training courses in marine biology and physical oceanography in Latin America, the Near East, India, and Viet-Nam; fellowships for selected graduate and postdoctoral students from both the advanced and the less developed countries; provision of visiting lecturers and scientific equipment to universities and laboratories in the poorer countries; and support of seminars and symposia on specific oceanographic problems.

Cooperation With Other U.N. Agencies

In its oceanographic activities, UNESCO cooperates with the Food and Agriculture Organization of the United Nations (FAO). The FAO has the responsibility for translating results from the marine sciences into practical fisheries developments, and its Advisory Committee on Marine Resources Research advises the Intergovernmental Oceanographic Com-

mission. The International Atomic Energy Agency is concerned with possible radioactive hazards to marine organisms and to the human beings who eat marine fishes and invertebrates, and the World Meteorological Organization has a direct interest in the interaction between the sea and the air. Both these organizations participate in the work of the Intergovernmental Oceanographic Commission.

The direct annual budget for the oceanographic activities of UNESCO is less than $250,000 a year. This includes the support of the Commission secretariat as well as part of the technical assistance program. Additional funds are received for technical assistance activities from the U.N. Special Fund and the Expanded Technical Assistance Program of the United Nations.

THE UNITED STATES' PART IN UNESCO'S OCEANOGRAPHIC ACTIVITIES

Throughout the past decade, the State Department, the U.S. National Commission for UNESCO, and the National Academy of Sciences have strongly supported the building up of the oceanographic activities of UNESCO. In recent years this support has been broadened to include other Federal agencies such as the Departments of the Navy and of the Interior, through the Interagency Committee on Oceanography of the Federal Council for Science and Technology. The concept of the Intergovernmental Oceanographic Commission as a useful vehicle for international cooperation originated in the United States. The first Secretary of the Commission and Director of the UNESCO Office of Oceanography was Dr. Warren Wooster, of the Scripps Institution of Oceanography. He has just been succeeded by Dr. Konstantin Fedorov, an outstanding young Soviet oceanographer who has had several years' experience in UNESCO.

The United States has also vigorously supported the Special Committee on Oceanic Research and other nongovernmental organizations for international oceanographic cooperation. The interweaving of the activities of these nongovernmental organizations with those of UNESCO and the Intergovernmental Oceanographic Commission is a notable example of the necessity for serious and sustained American effort, if international scientific cooperation is to succeed.

FUTURE POSSIBILITIES

Like the other specialized agencies of the United Nations Family, UNESCO is turning more and more to the applications of science and technology for the less developed countries. The chief practical applications of the marine sciences lie in the field of fisheries, which is the province of the Food and Agriculture Organization. But these countries need to develop their own scientific capabilities if they are ever to be able to lift themselves above dependent poverty. They cannot do this simply by studying other people's science; they must themselves participate in the world scientific enterprise. Because the oceans are so vast and so little known, almost any nation that borders on the sea can make important contributions to oceanography, even with a modest effort. Because oceanography deals with a familiar and visible, yet mysterious part of the real world, it is an easily understood kind of science, well suited to creating public understanding of the purposes and methods of scientific research. At the same time, the less developed countries need to learn a great deal

about their bordering seas, as a basis for conservation and full development of their ocean fisheries. Both UNESCO and FAO have a part to play here. For all these reasons, UNESCO should continue, and if possible increase, its assistance to these countries in building their human and material resources for oceanographic research.

Building Basic Marine Research

The future of the Intergovernmental Oceanographic Commission depends on its effectiveness in fostering genuine scientific research on the world oceans. Science is done by men and women, not by administrative organizations, and working scientists must be convinced that an organization is serving their scientific interests before they will be willing to support it. Perhaps the most important task before the Commission is to help with the development of the marine sciences in each of its member countries. Outside the United States, oceanographers in most countries are too isolated from other earth scientists and from modern biological and chemical research. Most government support goes for relatively routine applied work related to fisheries or to coastal engineering and surveys. University research and teaching are highly fragmented and inadequately supported. The Intergovernmental Oceanographic Commission must find means, perhaps through such devices as comparison of national reports and assignment of visiting committees to review national programs, to build basic marine research and teaching in its member countries.

The Intergovernmental Oceanographic Commission As a Pattern

The organization and methods of action of the Intergovernmental Oceanographic Commission might serve as a model for other UNESCO activities. Because UNESCO represents another level of bureaucracy, and a rather clumsy one, superimposed on the national bureaucracies of its member states, its activities should be limited whenever possible to those that cannot be well carried out by individual governments. The great virtue of UNESCO is that all its member states have a real sense of participation in its management. UNESCO is most effective in international coordination and planning, and least effective in actual operation.

The central principle of the Intergovernmental Oceanographic Commission is that its members jointly plan cooperative programs and separately carry out their agreed parts of the work. Also important is the high administrative competence of the Commission secretariat, which has been insured by making it partly responsible to the Commission, and by strong U.S. participation. The modes of operation and administration of the Intergovernmental Oceanographic Commission merit careful study as a possible pattern for future UNESCO activities.

The Educational Media and National Development

By Wilbur Schramm

Education is now an accepted component of national economic and social plans. As Philip Coombs said in his first statement as director of the International Institute for Educational Planning, economists, bankers, and development planners have become aware that a society cannot sustain economic growth, or develop mature social and political institutions, unless it invests adequately and early in the development of its people's talents. Its new steel mills, dams, and jet airports can end up simply as "expensive status symbols," unless human resources are developed in balance with physical ones. This calls for education. As the importance of education has risen, so has interest in the educational media, and in what they can contribute to education and consequently to development. This is the topic we are going to explore briefly in the following pages. And let us begin by saying precisely what we mean by the term "educational media."

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WHAT ARE THE EDUCATIONAL MEDIA?

The educational media are simply the tools of public communication used for the purposes of education. For a seminar in Paris, I once classified these educational media in four generations.

First-Generation Media

These are the teaching devices that antedate the mass media—charts, maps, graphs, written materials, exhibits, models, chalkboards, demonstrations, dramatizations, and the like. Many of these are as old as teaching. Their distinguishing characteristic is that, unlike later media, they require no machine or electronic device. Therefore they are available to the developing countries wherever trained teachers are available.

Second-Generation Media

Printed textbooks, workbooks, and tests are examples of this group. All second-generation media depend on introducing a machine (the printing press) into the communication process to duplicate quickly and inexpensively man's writing and drawing. For over 300 years these second-generation media have been used extensively for education. Now certain new printing methods, such as phototypeset-

ting and offset printing, are making them more easily usable in less industrialized countries. Textbooks are the most widely available of the educational media in the developing countries. Nevertheless, they are typically in short supply, and are often imported and therefore not completely adapted to local needs.

Third-Generation Media

The third generation includes photographs, slides, strip films, silent and sound motion pictures, recordings, radio and television. These depend on introducing a machine into the communication process to see and hear, or see or hear, for man. The first generation of media, it will be recalled, is as old as teaching; the second generation has been in use for more than 300 years; but the oldest of the third-generation media is only a little over 100 years, and the newest, about 35. The third-generation technology is well known in developing countries, but technicians and equipment are scarce. Films and radio are available in almost all such countries, and television in some. But projectors and teaching films are scarce in many countries; radio is used much less than it could be for education, and instructional television is beyond the experimental stage in only a few developing countries. It should be noted that such dramatic new "educational media" as the communication satellite are merely devices to extend the range of these third-generation media.

Fourth-Generation Media

The newest "media" include programed instruction, language laboratories, and electronic digital computers used in the tutorial process and in the swift retrieval of information. This generation of media depends in each case on communication between man and machine. Programed instruction, which "automates" a kind of self-teaching or tutorial process, is now for the first time being tried in developing countries. Language laboratories, which permit a student to practice language skills by comparing his efforts with an expert example, are likewise just beginning to come into use there. Computers used for the educational purposes indicated are still seen mostly in the industrialized countries.

This is a short catalogue of the impressive ranks of educational media, and something of their history: the very old teaching devices that require no communicating machines; the second generation of teaching devices that came into being more than three centuries ago, after man had learned to insert a machine into the communication process to duplicate what he had written; the third generation that has come into use during the last 100 years, when man could introduce a machine into the process to see and hear for him; and finally, the very new devices which depend on a student's communicating with something of the nature of a "teaching machine."

THE IMPORTANCE OF THE EDUCATIONAL MEDIA

The educational media have become so potentially important in the last few years because of their ability to act as multipliers of intellectual resources.

We sometimes forget what these multipliers have meant to us in the Western world. Without the printed media to multiply manyfold the places where writing could go and the number of people who could read it, we should never have had free public education or general literacy. Technical skills would never have been sufficiently widespread to bring about the

Industrial Revolution, and political awareness would have been insufficient to make possible the people's revolutions and the growth of democracy in western Europe and America. Without the print, film, and broadcast media, the Western world could never have been able to distribute the technical and political knowledge which characterize modern civilization.

Wherever the multipliers have come into use in the Western world they have unlocked a storehouse of intellectual resources, and, in so doing, have tremendously accelerated the production of *new* resources. Thus when the elite shared their knowledge with larger groups through print in the 15th and 16th centuries, there followed the tremendous outpouring of new knowledge in the Renaissance. When literacy and education broadened so that more people could share the knowledge of the scientific elites in the 18th and 19th centuries, there came the great outpouring of modern science and technology. In all such cases, the sharing of intellectual resources made possible the creation of new resources, which in turn made possible profound social changes, most of which took the form of freeing the common man in one way or another, raising his status and potential, easing his hardships and opening new horizons to him.

And now the communication multipliers are being asked to do it again, on a larger scale, at a faster rate. They are being asked whether they can bridge the gap between the great educational needs and the scant resources of the new countries, and release the great energies pent up in these countries as they released the energies of western Europe in previous centuries. More specifically, they are being asked to help the new countries do more, educationally, for less; to fill in for untrained teachers; and to carry education where there are as yet no teachers and no schools.

Can they do it? Let us look at those three challenges.

To Carry Education Where There Are No Teachers and No Schools

Over large areas of the developing countries, people would go untaught if they had to wait for schools and teachers. And there is very little doubt as to what the educational media can accomplish in this respect: they can offer some opportunities even without schools. No country, of course, will long be satisfied to send its children to school only to radio or television. As soon as possible, schools and resident teachers will be needed. But teaching need not wait until these are available. In Italy the Telescuola teaches large numbers of children and adults who would otherwise be unable to study; and in the third year of this experiment a larger proportion of the Telescuola students than of the classroom students in the country passed the annual examinations for promotion. In Chicago, an entire junior college curriculum is offered on television, and the students (many of them homebound) have made a remarkable academic record. In many countries, radio has carried language teaching, scientific agriculture, and many other subjects to persons who would otherwise never have been able to study them. There is little doubt, therefore, that the media can be of real help in this way.

To Fill in for Untrained Teachers

Most developing countries are short of teachers, and all of them are short of well-trained teachers. In many countries the teacher has had little more training than the students. Since training and paying

teachers is one of the largest items in the bill for education, it is likely to be some time before adequately prepared teachers will be available in sufficient numbers. Therefore the question: what can the media do to help?

Here again we can answer fairly confidently on the basis of experience. They can share the *best* teaching, by broadcasting some of the best teachers, by filming experts and expert demonstrations, and by using the most experienced teachers to help prepare materials for others. The media can do some of the teaching which resident teachers are not trained to do. It is possible to offer a science class, for example, by radio or television or film, even though the school has no science teacher. Many countries have found it effective to offer correspondence courses where no teachers in certain subjects are available. Above all, the educational media can help to *upgrade* present teachers. In this country, for example, when we began to introduce foreign languages on a broad scale in the elementary school, we faced a shortage of elementary schoolteachers trained to teach foreign languages. But when we introduced an expert teaching elementary school foreign language on television, we noticed that the classroom teacher followed along, saw how the expert did it, was stimulated to do extra work on her own, and after a while usually became a competent teacher of the subject. Henry Cassirer in a talk at Purdue told of a science teacher in Oregon who "wrote to the television teacher and said: 'This year I'm not going to take you in my class any more, because I've watched you for two years and I think I can do the same things you do and I don't think I need you any more.' To my mind," Cassirer added, "this is exactly as it should be!" This is *indirect* teacher training. From dozens of countries, from Sarawak to the United States, we could cite examples of successful uses of the media to train and upgrade teachers *directly*. Therefore, there is little doubt that any developing country can profitably use the media for teacher training, both inservice and preservice.

To Help the New Countries Do More Educationally for Less

This is the key question. The projected costs of developing education are enormous. The African Governments, meeting at Addis Ababa in May of 1961, estimated that the cost of the present 5-year plan for raising primary enrollments from 40 to 51 percent, secondary enrollments 3 to 9 percent, in Africa alone, would be about $4.15 billion. The Asian Governments, meeting at Karachi, the Middle East Governments at Beirut, and the Latin American Governments at Lima and Washington, came to comparable conclusions about educational costs. No one has dared to estimate the total cost of educational development in the next 20 years, but if the educational media could save only a tiny fraction of it they would make a most noteworthy contribution.

But we have been talking about some rather expensive devices. Instructional television, for example, is not something one orders like a new projector or a bundle of chalkboard erasers. Are we talking about saving money or spending more money? Can the educational media really do more for less?

The answer to this question cannot be so clear-cut as to the first two questions. There is no doubt, of course, that the media can help the new countries do *more*. We long ago proved in our own schools that the educational media could enrich the

curriculum, improve teaching, and offer demonstrations and other learning experiences which would otherwise not be available. But whether they can do it *for less* depends partly on what the new countries are willing to do about their own educational systems. If they insist on building a string of Durhams and Cambridges, of Lycées and boarding schools, or, for that matter, of Choates and Harvards, across their countries, then they are unlikely to save much money by using the educational media. In our countries, we have never used the educational media (except, possibly, the textbook) at their full potential because we have added them on, almost as an afterthought, to a system already designed and hardened. To the extent that these countries imitate us, therefore, the media are not likely to help them do more *for less.*

But if they are willing to take a fresh, imaginative look at their educational needs and resources, then the outcome may be somewhat different. Suppose a country starts new, knowing of the existence of the new media, estimating the resources it will have, defining its needs not in terms of another country's system but in terms of its own goals and its own people. And suppose it then designs the best system it can to fit its own needs. Undoubtedly, this will be unlike any existing system, although it may incorporate elements of many systems. We wager that the resulting system, whatever it is, will make prominent use of the educational media. And beyond the fact that it will certainly come closer to the needs of the country than an imported or imitated system, it may also do more for less: it may make possible a real saving in money. Undoubtedly, problems like this will be the food of discussion at the new International Institute for Educational Planning.

THE MEDIA AND ADULT EDUCATION

It is in adult education that the educational media make one of their most striking contributions. In most developing countries there is no such sharp distinction between child and adult education as there is in our country. The whole country seems to be learning—indeed, must learn, if development is to go forward. One of the more attractive reports to come out of developing China is that everyone *hsueh hsi*—studies. At every level in a new country, there are new skills to be taught, questions to be answered, people to be persuaded, decisions to be made and talked over. At every level, therefore, there is need for an enormous amount of information. Whether it comes through schools or through media or organizations outside the schools, still it is concerned with new skills, new understandings, new values.

The common people of a developing country are being asked to do nothing less than change their lives! They are asked to modernize the agriculture their families have practiced for centuries, improve their health practices, learn to read, go to school or send their children, learn mechanical and mathematical skills, move from barter into a money economy. They are being asked to reconsider long and strongly held attitudes toward such things as killing living creatures, hard work, fatalism toward life and destiny, family size and organization, caste and status. They are being asked to take part in governing the country. Daniel Lerner tells in *The Passing of Traditional Society* what a traumatic experience it was for a Middle Eastern village for a radio receiver to be brought in, and for the men of the village to hear the national leader inviting them, for the first time in all history, to participate in national government!

What the common people learn and decide in the villages is therefore just as important as what the leaders learn and decide at the center. It is true that a group of economic planners and administrators must sit in seats of importance, receiving information and making national decisions on how much capital shall be invested in heavy industry, how much in schools, what dams shall be built, what taxes shall be collected, and so forth. But a vastly greater amount of information must be absorbed by the ordinary men, women, and children of a developing country, and a vastly greater number of decisions must be made by these ordinary people if the central decisions are to have meaning and force. And the more a country depends on persuading rather than coercing its people, the more it must depend on information and teaching. In this respect the media, in school or out, can be of the greatest help.

WHAT THIS MEANS TO DEVELOPING COUNTRIES

There is no doubt in the mind of anyone who has looked hard at this question that the educational media can multiply enormously the educational resources of a developing country. This is true of the whole gamut of media, from the first through the third and even into the fourth generation, as we listed them earlier. "Is there in fact today," asked Henri Dieuzede, research chief of the French Institut National Pedagogique, "any other human undertaking, beside radio and television, which appears capable of helping a society in transition to cross so quickly and effectively the difficult threshold of the second half of the century: of providing a modern education on a world-wide scale?" He was perhaps paying insufficient honor to what films might accomplish; and at least one of the newest media—programed instruction, which promises to be one of the most effective means of self-teaching—should be in his list. But the basic point holds: without an effective use of multipliers, it is unlikely that the developing countries can even come close to their goals of educational development in the next decades.

This in turn means two things to the leaders of the developing countries. For one thing, they must be willing to invest in the media. The record of the developing countries is not particularly good in this respect. As a matter of fact, the Communist countries have typically paid more attention than the non-Communist ones, to building up the media. These latter are willing to invest in heavy industry, somewhat more grudgingly in schools, and hardly at all in media. Ithiel Pool tells what one Asian country has done about the radio system which has been its chief tool for reaching the villages. In this particular country, Pool said,

> There are two radios per 1000 persons. . . . The First Five Year Plan allocated two-tenths of one per cent of outlays to developing of broadcasting. It allocated 14 times as much as that to posts and telegraphs. It allocated about 60 times as much to education. But that was only the Plan. Across the board, actual outlays of the five years slipped 15 per cent below the Plan, but outlays for broadcasting were allowed to fall short by 45 per cent. . . . In the Second Five Year Plan development of broadcasting was given no greater role. . . . In the Third Plan it is cut down to one-tenth of one per cent.

Furthermore, the possibility of using the educational media challenges the new countries to a certain boldness in dealing with their educational budgets, and a certain imaginativeness in making their educational plans. Developing the educational media, or the mass media in general,

is not a costly thing compared to the total cost of education, but it still requires investment at a sufficient rate to reach a "critical mass." For example, a little television is a costly thing, but television used in a sufficient number of schools and for a sufficient number of students and adult learners may save money. Furthermore, as we have said, the potential of the educational media challenges the new countries to fresh thinking about the kind of education they want and can afford. A timid, imitative approach is unlikely to get the best out of the media, or the most useful education to the children of the country. National development is a time for bold thinking and future orientation, in education as in other things.

WHAT IT MEANS TO US

The need of the developing countries for educational and information multipliers presents a special challenge to countries like this one, because we are the chief custodians of experience with the new media. Most of the research on instructional television has been done here. There were upwards of one hundred experiments with programed instruction in this country before any considerable development took place elsewhere. Some of the largest manufacturers of media equipment are here. Therefore, we are in position to share our knowledge with the new countries, and indeed are obligated to do so.

But we must observe a certain humility in sharing what we have. A machine—a projector, a television transmitter, a radio receiver—can be transferred to another culture with little or no change. But the *use* of such machines presents a different problem. We can help the new countries a great deal in learning *how to use* the educational media, but we must be restrained in telling them what to use the media *for*. We don't know how many of our instructional films, our textbooks, our instructional programs, can be used without substantial change in, say, an African or an Asian culture, but we can assume that the number will not be large. Any country wants its educational materials and system to fit its own culture. Nigeria wants its reading texts to deal with Nigerian children, not with Dick and Jane; its arithmetic texts to be used based on African, rather than European or American examples. The media cannot wag the culture. It is a new country's job to decide what it wants to teach. It is our part to find out enough about the culture and the economics of the country so that we can give sensible advice about the use of the educational media. To put it another way, our task is to help the people of the new countries, when asked, to learn to use the educational media in their own way (not our way), for their own purposes (not ours) and their own audiences (not the ones we are familiar with). Much of the trouble with giving advice in this area would be avoided if these simple restraints were observed.

WHAT IT MEANS TO UNESCO

Inasmuch as we are speaking under the auspices of the U.S. National Commission for UNESCO, it may be proper to say in conclusion a word about the meaning to UNESCO of educational media in the developing countries.

UNESCO occupies a responsible position in this situation. It is a nerve center, into which flows—or should flow—information from both the more highly developed countries and the new countries on their experiences with the media. Thus

UNESCO is a kind of educational medium itself, and in position to multiply the intellectual resources on this subject. What one developing country finds out may well be of use to another. What is available in a developed country may be something that a new country needs. UNESCO is in position to know where experts and advisers are available, and to send them, on request, to developing countries, and through its training grants to send people from the developing countries where they can best learn about the media.

As a matter of fact, UNESCO has been doing a rather good job in this respect, and the flow of experts which it has supplied to the developing countries of Asia, Africa, and Latin America is a case in point. A second example of its helpfulness is what the organization has done to make known the technique of the radio or television farm forum. This originated in Canada. UNESCO early saw the importance of such forums as vehicles of information and decision-making for rural people. It therefore asked Canada to evaluate its experience. The results of this evaluation were published, the method of conducting the forums was made known, and as a result the forums were tried in a different pattern in France and in Japan, made a great success in India, and are now being used in a number of other countries. In each case they are proving the power of combining mass media with local discussion, and this generalized principle is one which UNESCO is able to pass on to developing countries. A third example of UNESCO's work in this field is the two workshops on programed instruction held last summer, one in Africa, one in the Middle East, to give the educators of these regions a chance to study and evaluate the new method. If the method proves promising, further steps will be taken to introduce it.

We must mention that UNESCO faces one organizational problem in dealing with these devices, a problem that is generic to the nature of educational media. These media are both educators and mass media. The media specialists of UNESCO are in the Department of Mass Communication, whereas the educational specialists are, of course, in the Department of Education. Up to this point, most of the help with instructional radio and television has come from the Department of Mass Communication; most of that on programed instruction and textbooks, from the Department of Education. As the educational media grow in importance, this will become more of a problem, and some kind of administrative adjustment—something of the nature of a task force, or project staffs, or some other arrangement to make sure of ample cooperation and focus on the problem—will probably have to be made.

It must be said, however, that UNESCO has been aware for some time of the potency of these media, and has shared the vision which Robert Le Franc, of the graduate school at St. Cloud, expressed in this way:

> We need have no fear that these countries, at least, will make the same slow pilgrimage to the temple of culture which has taken European countries some hundreds of years. On the contrary, they should undertake forced marches, and fight ignorance and illiteracy with modern methods and techniques, not with those of Socrates, Montaigne, Rousseau, and Jules Ferry.

Advisory Role of the Commission

The primary role of the Commission is to advise the Government of the United States in matters relating to UNESCO and in all matters referred by the Secretary of State. The Commission at its plenary sessions makes recommendations on the UNESCO program and budget after careful consideration and review by technical committees (education, natural and social sciences, mass communications, and cultural affairs).

Looking toward the Twelfth General Conference of UNESCO at Paris scheduled for November–December, the various technical committees of the Commission met in Washington on April 26–28, 1962, to review in considerable detail the existing program of UNESCO and consider proposals for the future. The Commission in plenary session approved the proposed increase of 22½ percent in the UNESCO budget[1] as reasonable for the continued normal growth of UNESCO. It also favored substantial increases in the U.N. Special Fund and Technical Assistance Program as consistent with the Decade of Development, but repeatedly cautioned that this new emphasis should not lessen UNESCO's attention to its traditional role of promoting intellectual cooperation. The Commission also strongly urged that UNESCO set definite priorities among its manifold activities to provide a greater concentration of effort for the more important tasks facing the organization.

Many of these general and specific recommendations were incorporated by the Department of State in the instructions prepared for the U.S. delegation to the General Conference. In addition, several members of the Commission participated in the work of our delegation. The Chairman of the Commission, George Allen, was appointed Vice Chairman of the U.S. delegation and was acting Chairman during the latter part of the Conference. Two Commission members were appointed alternate delegates and a third was named Special Adviser. The Executive Secretary of the Commission also served on the delegation.

The technical committees and the Commission met again in Washington on April 24–26, 1963, to develop recommendations on the UNESCO program for 1965–66. These sessions marked the beginning of an intensive effort by the Commission to concentrate its attention on major program aspects and to submit its recommendations in the early stages of UNESCO's program development cycle. The work of the Commission at this April 1963 meeting will not have its outcome until the 1965–66 program is finally established at the Thirteenth General Conference in the fall of 1964.

As a major recommendation, the Commission called for closer integration of the natural and social sciences within UNESCO to better utilize resources for

[1] The 12th General Conference of UNESCO adopted a $39 million budget in December 1962, representing a 20 percent increase over the previous biennium.

international development. Also urged was the establishment of an Institute for Natural Resources Analysis to provide an integrated approach to the problems of development and help the less developed countries identify and analyze their resources problems. The Institute would identify and formulate regional and national resource development problems to be analyzed on an integrated approach by all specialists concerned. It would also serve as a clearinghouse for information on resource development technology, including social and cultural aspects, and provide training in methods of analysis and research on natural resources problems.

In the field of scientific documentation, the Commission noted that UNESCO was particularly suited to assist the less developed countries in setting up information services in science and technology. As regards current science activities, the Commission recommended increases in the budget for hydrology, oceanography, documentation, science education, and science cooperation and smaller outlays for cell biology, brain research, and space sciences.

In the field of education, the Commission approved the idea of a sustained international effort to promote literacy among nations of the world, but cautioned that this effort must be part of a broad undertaking involving other international organizations concerned with the development of human resources. The Commission also felt that adult literacy efforts in each country should be integrated into a well-balanced program of educational development. Emphasis was also placed on the need for having adequate resources and competent teachers available.

On the subject of cultural activities, the Commission stressed that the current emphasis on the U.N. Decade of Development should not cause UNESCO to abandon its basic purpose of promoting better international understanding through cultural exchanges. With the impending conclusion of UNESCO's Major Project on Mutual Appreciation Between the Orient and the Occident, the Commission recommended that selected aspects of this important activity be continued within the regular UNESCO programs.

Turning to Mass Communications, the Commission reaffirmed its belief that the mass media can and will play a significant role in the U.N. Development Decade and urged greater financial support for UNESCO's work in developing mass media in Asia, Africa, and Latin America. The Commission sounded a cautious note with respect to the cost and use of satellites, and made clear that these new means of communications offer no swift and easy way to wipe out ignorance on a global scale. The Commission also urged UNESCO to undertake a comprehensive pilot project in one country to test the application of educational technology in that country's development program.

The Commission reaffirmed UNESCO's support of international nongovernmental organizations where it is clear that needed funds are justified and not otherwise available. The recommendation made clear that these organizations should make every effort to become self-sustaining and whenever feasible should be supported by UNESCO through contracts for specific services rather than by grants.[2]

All of these recommendations were submitted to the Secretary of State by the Chairman on May 10, 1963. They were accepted in large measure by the Department of State and were used in the U.S. Government presentation to UNESCO re-

[2] The complete report of "Recommendations for the UNESCO Program and Budget 1965–66," submitted to the Department of State, is included as Appendix I.

garding our view of what the 1965–66 program should be.

On a separate special problem concerning UNESCO publications policy, the National Commission approved at its October meeting in Pittsburgh a statement finalizing a study initiated early in 1962.[3] In transmitting the statement to the Secretary of State, the Chairman characterized it as one of the most careful actions ever taken by the Commission. The technical committees, an *ad hoc* working group, the Executive Committee, and finally the Commission in plenary session devoted long hours of study and deliberation to it. Concerned with a situation where the great number of member states inevitably have wide and divergent views as to the purposes of UNESCO publications, the National Commission emphasized the need for competence, objectivity, and clear identification of authorship. Additionally, the Commission recommended creation of a Publications Advisory Board within the UNESCO Secretariat to ensure that manuscripts meet agreed criteria.[4]

[3] The text of the report will be found in Appendix II.

[4] On the basis of a report prepared by a special Publications Committee, the Executive Board of UNESCO at its 65th session in April 1963 adopted a resolution which incorporates the essence of four recommendations made by the U.S. National Commission for UNESCO. The Executive Board added a proviso that publications should avoid passages likely to cause offense to member states. The UNESCO Secretariat Publications Board has been reconstituted to assist the Director General in implementing the new policy. The new criteria represent the first policy guidance on UNESCO publications ever provided by a UNESCO governing body.

Implementing the UNESCO Program

Since its inception the Commission has helped create in the United States a better climate of international understanding and appreciation of foreign cultures in line with the objectives of UNESCO. The Commission has endeavored to do this by holding national conferences every 2 years in line with its mandate. Representatives of nongovernmental organizations are invited to send representatives.

• The Eighth National Conference "Africa and the United States: Images and Realities," held in Boston in October 1961, in cooperation with Boston University, explored in depth and details the social, cultural, and educational changes of Africa. During 1962 many of the delegates undertook followup activities with the help of the Commission. Among such activities were conferences in Colorado, Connecticut, Illinois, Minnesota, New York, and other parts of the country on the general theme of the Boston Conference. To help plan these local conferences, the Commission distributed hundreds of copies of the 212-page background book of the Boston Conference, as well as of the *Final Report*. The Commission prepared a *Blueprint for American Community Programs on Africa* with the help of the Foreign Policy Association and the Women's Africa Committee of the African-American Institute. The National Commission also published Films on Africa, a list of selected films useful for group showing.

• The Ninth National Conference held at Chicago in October 1963 in cooperation with the Chicago Council on Foreign Relations featured the theme of "The New Europe and the United States: New Directions." About 1,200 participants from the Chicago area and other parts of the country attended the plenary sessions and symposia devoted to the fundamental changes now taking place in Western Europe and their relevance to the United States.

Following the keynote address by René Maheu, the Director General of UNESCO, some 50 distinguished American and European speakers set forth significant developments in Western European and Atlantic relations.[1]

Events related to the Conference and arranged by the Chicago Council on Foreign Relations included a 1-day session on the New Europe theme for students and faculty from 250 Chicago-area high schools; a special symposium on contemporary European painting at the Chicago Art Institute and a concert of Contemporary European music by the Chicago Symphony Orchestra.

• The National Commission initiated in 1962 the first in a series of seminars in support of the activities of UNESCO. The first seminar, organized by Dr. Luther Evans, former Director General of UNESCO, brought together at the Airlie

[1] The final report of the Conference will be available early in 1964.

Foundation in Virginia, 30 experts from universities, foundations, and the Government for a concentrated study of the implications for Africa of the new educational media, discussed by Dr. Schramm in a preceding chapter. Foremost among the recommendations resulting from the seminar was a call for better coordination of activities between Government and private agencies in the field of mass techniques of education. A second seminar is being planned on the role of nongovernmental organizations in UNESCO.

In line with its consistent interest in international understanding, the Commission also sponsored a meeting on February 8, 1963, for textbook publishers and writers in cooperation with the National Council for the Social Studies and the American Textbook Publishers Institute on UNESCO's Major Project on Mutual Appreciation Between the Orient and the Occident. One aspect of this project concerns the improvement of textbooks. The meeting attended by 42 publishers, writers, and consultants made several recommendations, including a high-level curriculum study that will set clear objectives in the teaching of non-Western cultures. A report of the meeting was distributed by the cosponsoring organizations. Further meetings of experts are planned in 1964 under the joint auspices of the Commission and the New York State Education Department on related aspects of teacher training and curriculum planning in non-Western cultures.

• In the cultural field, the National Commission helped bring to the United States and send on a national tour in 1962 the King Tutankhamen treasures, a loan exhibit from the Department of Antiquities of the United Arab Republic. The "King Tut" treasures were for the first time sent outside the United Arab Republic to publicize UNESCO's efforts to save the Nubian monuments along the Nile. This exhibit has been shown at the National Gallery of Art, Washington, D.C.; University Museum, Philadelphia, Pa.; Peabody Museum of Natural History, New Haven, Conn.; The Museum of Fine Arts, Houston, Tex; Jolsyn Art Museum, Omaha, Nebr.; Oriental Institute, Chicago, Ill.; Seattle Art Museum, Seattle, Wash.; California Palace of the Legion of Honor, San Francisco, Los Angeles County Museum, Los Angeles in California; Museum of Fine Arts, Boston, Mass.; City Art Museum of St. Louis, St. Louis, Mo.; Walters Art Gallery, Baltimore, Md.; and Cleveland Museum of Art, Cleveland, Dayton Art Institute, Dayton, and Toledo Museum of Art, Toledo, in Ohio.

• As a further contribution to the UNESCO Major Project on Mutual Appreciation Between the Orient and the Occident, the National Commission assisted the Art Department of Indiana University in circulating an exhibition of about 30 paintings by Senake Senanyake, a 12-year-old gifted artist from Ceylon. His original paintings have won high praise in several cities.

• The National Commission collaborated in the International Poster Contest sponsored by UNESCO "for designs which make a striking appeal on behalf of international understanding and cooperation." To select U.S. entries for the competition, the National Commission organized a nationwide contest. The best entries from the 530 posters received from 34 States and the District of Columbia were selected by a jury consisting of René d'Harnoncourt, Director of the Museum of Modern Art; Leo Lionni, Art Director of Fortune Magazine; and Norman Todhunter, a well-known artist and illustrator. The winners were: George Giusti of

New York; Joe Simboli of Philadelphia; Antonio Frasconi of South Norwalk, Conn.; Hubert W. Leckie of Washington, D.C.; James Cross of Sherman Oaks, Calif. and Gary D. Friedland of Forest Hills, N.Y.

• The National Commission submitted 89 photographs from various American school children for the World Exhibition of Photographic Works by secondary school pupils sponsored by the Japanese National Commission for UNESCO and the Photographic Society of Japan on the theme of "Life of Peoples of the World." American entries won first and sixth prizes. The National Commission also sponsored the American participation at the 2d and 3d World Education Art Exhibition in Seoul, Korea, and 7th and 8th World Schoolchildren's Art Exhibition.

• The National Commission cosponsored with the Italian National Commission for UNESCO a book of reproductions of the paintings in the Bernard Berenson collection at his villa near Florence. Reproductions of this unique collection have never been previously published in book form.

Public Liaison With Organizations and Information Activities

A primary function of the Commission is to inform the American public of the work of UNESCO and stimulate activities on the part of voluntary organizations which will further United States participation in the work of UNESCO and bring about better understanding of United States efforts in international aspects of education, science, and culture.

• Organizations belonging to the Commission, as well as former organizations and other national and local groups, often call on the National Commission for pamphlets, discussion materials, films, exhibits, and speakers. A report for a 6-month period (April–September 1962) showed that 34 such organizations asked the National Commission for assistance in planning programs. Indicative of the interest in UNESCO is the fact that more than 125 circles of the Women's Society of Christian Service of the Methodist Church devoted meetings to UNESCO in the fall of 1962 in 24 States. Several other large organizations included UNESCO in their adult study programs. The Commission also helped sponsor a regional conference on May 24, 1963, at Chicago Teachers College for representatives of nongovernmental organizations.

• The National Commission sponsored an exhibit at the United Nations Pavilion at the Seattle World's Fair, and provided speakers, including the Chairman, for a special UNESCO Week June 24–30. This special event attracted hundreds of visitors for talks on UNESCO and special programs of folk music. UNESCO was also featured on local radio and TV stations. Smaller exhibits were also supplied in 1962 to several county fairs, including Memphis Mid-South Fair in Tennessee; Santa Clara Fair, the California State Fair at Sacramento, and the San Mateo County Fair in California; and Columbus County Fair in Ohio, as well as several conferences throughout the country.

• The Pittsburgh meeting of the National Commission in October 1962 featured a series of panel discussions which related international education to the interests of American colleges and universities and of community organizations. The program was arranged in cooperation with the Regional Council for International Education and covered such topics as "Broadening Academic Horizons," "Training for International Service," and "The American Citizen and International Understanding." Representatives of the 30 colleges and universities belonging to the Regional Council joined with Commission members in the panel presentations and ensuing discussions. Closer relationship with colleges and universities will continue to be a major concern of the Commission.

• To inform the public of UNESCO activities, the Commission publishes a monthly newsletter. Other publications in 1962 and 1963 include *UNESCO in the News*, an account of UNESCO activities as seen in the American press; *Questions*

and Answers about UNESCO, a pamphlet on the role of UNESCO which is widely used by organizations; *The American Interest in . . . UNESCO*, an illustrated pamphlet which was placed on sale by the Government Printing Office as well as several reprints of articles on UNESCO.

• National Commission members and the staff cooperated with the press, various publications, and radio and television in informing the public on the general and specialized activities of UNESCO. Several Commission members have written articles for general and specialized publications. Several have appeared on TV panels and spoken to community groups.

• Another indication of public interest is reflected in the volume of mail. The staff answered queries from more than 9,000 persons in 1962 for information and documents on the UNESCO program on Human Rights, not including congressional requests for information.

Promotion of Human Rights

Each year in December, in line with a request by UNESCO, the United States joins with other nations of the free world in observing Human Rights Day (December 10), commemorating the anniversary of the adoption in 1948 of the Universal Declaration of Human Rights by the U.N. General Assembly. In the same week there also follows the anniversary of the United States Bill of Rights (December 15). For the last several years the National Commission has promoted annual observance of Human Rights Week (December 10–17) to call attention to the close parallel between these two documents.

• Human Rights Week observances were marked in 1962 by proclamations by the President and several Governors of States, as well as statements by heads of Federal agencies. The National Commission assisted in observances throughout the country by mailing out, upon request, posters, guidebooks, and flyers to schools, libraries, and church and civic groups. The Commission also sponsored a 1-minute TV message by the Attorney General which was distributed to major TV stations and networks.

• As part of the planning for national observance of the 15th anniversary of the Universal Declaration in 1963, the Commission called a meeting of nongovernmental organizations which resulted in the publication of a guidebook for community action sponsored by 34 national voluntary organizations. The handbook served as the basis for planning Human Rights Week observances in at least 19 communities. In addition, the Commission marked the anniversary with appropriate materials and a new poster highlighting the significance of the Universal Declaration. At the request of the Commission, Howard Hanson composed a choral work setting to music the preamble of the Universal Declaration. His work is scheduled to receive its world premiere by the National Symphony Orchestra at a concert in Constitution Hall on December 10. Special exhibits on the theme of Human Rights are scheduled at the National Gallery of Art in Washington, the Boston Museum of Fine Arts, the Kansas City Museum of Fine Arts, and the Cleveland Museum of Art.

Another highlight of Human Rights Day in 1963 will be an exhibit in the National Archives building of drafts of Human Rights documents in which the late Eleanor Roosevelt worked during her association with the United Nations as well as other manuscripts and papers illustrating her interest in Human Rights. The exhibit is to be opened to the public by Ambassador Adlai Stevenson.

Recommendations for the UNESCO Program and Budget 1965–66

EDUCATION

Adult Literacy

The United States National Commission for UNESCO strongly supports the idea of a sustained international effort designed to bring about literacy among nations of the world. It further believes that the achievement of this goal will be greatly aided by efforts directly to educate the adult citizens who now shape or influence the social policies of their countries and whose capacity to produce determines the economic base of their society.

The National Commission is aware of the fact that literacy has many levels ranging from a single capacity to read and write one's name to an ability to absorb the written and printed materials required for full and responsible citizenship. Since only the highest level can serve as the ultimate aim, and since it must eventually be achieved in many different societies, most of which are now nonliterate or semiliterate, the task ahead is a long, difficult, and complex one.

The National Commission therefore recommends that UNESCO, including national or international agencies with which it works, should be guided by the following policies:

1. An adult literacy program should be considered to be an essential element in the development of a nation. The motivation which leads men and women to want to be literate is intimately related to their political, economic, and social aspirations.

Learning to read and write must be a meaningful activity, not merely a mechanical exercise. This fact suggests that UNESCO literacy efforts should largely be a matter of rounded development programs jointly undertaken with such international agencies as the Food and Agriculture Organization (FAO) and the World Health Organization (WHO), and others having similar missions.

2. An adult literacy program should be conceived as a central and integral part of the total adult educational activity of a nation. Some countries have complex needs for education, while others can be satisfied, at least for a time, with simpler approaches.

But literacy merely makes further learning possible and lifelong learning is essential to the modern man or woman whether it be on the farm, in the factory, in the home, or in parliament. Therefore an adult literacy program cannot be the sole focus of educational effort, a fact which should be recognized by every nation as it designs its balanced program of educational development.

3. Adult literacy programs should be initiated and expanded as rapidly as adequate resources can be made available and competent teachers can be provided. It must be recognized that this field of educational activity is so important as to require the taking of occasional calculated risks in the hope of achieving both immediate impact and long-range educational development. It must also be

remembered that the failure of a program leads to disillusionment and deters the later development of sounder activities.

4. One valuable function of UNESCO is to collect, organize, and make widely available present knowledge as to the best methods and techniques for adult literacy so that future practice can increasingly be based on the fruits of past experience.

5. Another important function for UNESCO is to stimulate and support further basic research concerning adult literacy education. This research will involve an exploration of the administrative, curricular, and motivational aspects of literacy programs. But other basic studies need to be made of such technical matters as eye movement, regression, spaced introduction of new words, and phonics as these matters apply to adult readers. Both the existing and the future technology of literacy learning must be considered, for many kinds of languages in many kinds of alphabets and pictographic representations. While an inspired and dedicated teacher can achieve excellent results in individual situations, mass literacy programs can be carried forward most effectively by establishing fundamental methods which can be applied by many teachers.

6. The teaching of reading and writing whether to a child or an adult is but the first step in making him literate. To support the use of his skills and to enable them to be used to his advantage and that of his society require those essential but complex resources, including such things as libraries, bookstores, newspapers, magazines, to be found in every literate society.

While the initial thrust of effort must focus on the teaching of basic skills, the National Commission hopes that even now the larger dimensions of the problem may guide the efforts and fire the imagination of those who direct the UNESCO program.

School Construction

Noting, the growing interest of the developing countries in problems of school construction; and

Noting Also, the establishment under UNESCO of regional centers at Bandung, Khartoum, and at some point to be selected in Latin America, for the study of school construction problems; and

Recognizing, that the construction of school buildings will require the use of many billions of dollars,

The United States National Commission for UNESCO endorses and approves the interest which UNESCO has taken in the problems of school construction.

The National Commission Recommends:

1. That UNESCO recognize that the major means by which it can render a service in this field will be through national agencies dealing with school construction programs, and that it encourage the development of such national agencies and give them all possible support.

2. That no additional regional centers to be concerned with school construction problems be established at present. Efforts should be directed for the present to exploring the potentialities of the three centers whose establishment has been approved.

3. That UNESCO establish an office or unit within its Department of Education as a first step toward providing assistance in this area on an international basis.

4. That UNESCO should also explore other ways of helping developing countries meet their needs in this area, for example, through publications and conferences. (Considerable discussion was given

to the question of recommending to the Department of State that UNESCO consider convening in 1965 an International Conference on School Facilities in the United States. It was felt that this matter could be more properly explored by the Department and Staff.)

Subventions and Contracts With International Nongovernmental Organizations

Noting, that in the area of education subventions involve the annual expenditure of only $34,000, presently distributed among eight organizations, representing only a small amount of supplementary assistance relative to subventions in the area of science and culture;

Noting Also, the importance of subventions as a method, the need for determining their use in each individual case, and the importance of any change in policy being gradual;

Noting Further, the growing importance of contracts as a means of obtaining specific services from nongovernmental organizations;

Convinced, of the continuing need for securing maximum cooperation from international nongovernmental organizations to advance the purposes of UNESCO;

Recognizing, that many of the purposes for which subventions are granted to international nongovernmental organizations are purposes for which financial aid is not generally available from other sources;

And Recognizing Also, that additional organizations might merit supplementary support in terms of subventions;

The National Commission urges the Department of State:

1. To support the UNESCO practice of granting subventions to international nongovernmental educational organizations when it is clear that needed funds are not available to these organizations from other sources, and where organizations have proper justification for their requests;

2. To request beneficiary organizations to make every effort gradually to increase their own share to the point of becoming self-sustaining as soon as possible;

3. To request the Secretariat of UNESCO to publish a summary and an appraisal of the activities of those organizations to which UNESCO has granted subventions;

4. To review the criteria established for selecting recipients of subventions from amongst those which apply for supplementary aid; and

5. To subscribe to the policy that UNESCO support should take the form of contracts for specific services whenever feasible providing funds are made available to fulfill the purposes set forth in Section VI.2 of document 11 C/48 not generally included in contracts for specific services.

Technical and Vocational Education

The National Commission believes that technical and vocational education should be an integral part of the total general education program.

NATURAL AND SOCIAL SCIENCES

Secretariat Organization for Development

The problems of development cannot be solved without an integrated attack on the educational, technical, and cultural front. Consequently, by virtue of its scope and charter, UNESCO is uniquely qualified to assist the less developed countries in achieving their aspirations for economic development. The U.S. National Com-

mission, in its advisory role to the State Department, believes that it is clearly in the interest of the United States to insure that UNESCO can play its proper role in international development.

The U.S. National Commission agrees with the Director General that at the present time UNESCO is not administratively equipped to undertake these tasks. We believe that reorganization along the following lines would improve UNESCO's organization and be a first step towards full utilization of its resources for development. There should be an Assistant Director General for Science who would have under his cognizance two basic science departments, one in the natural sciences and one in the social sciences, and a third department for the application of the natural and social sciences, together with other UNESCO resources, to the problems of development.

The Department of Development should have authority to draw support from all departments of UNESCO in furtherance of the goal for meeting the aspirations of the less developed countries.

Regardless of the particular details of organization the fundamental principle of an integrated approach to the problems of development and the high priority of such activity within UNESCO must be recognized.

Institute for Research Analysis

The National Commission recommends the establishment under the aegis of UNESCO of an Institute for Resource Analysis. The objective of such an institute would be to help the underdeveloped countries in the tasks of identifying, formulating and analyzing their national or regional problems of resources utilization and development. Systematic analyses involving consideration of the interactions between natural and human resources, social and political structures, and cultural traditions are a prerequisite to national development planning and programing, and are needed as a basis for international investment in development of the less developed countries. Such analyses will usually require cooperative studies and joint thinking by economists, sociologists or anthropologists, engineers, natural scientists, educators, and specialists in communications and specialists in systems analysis.

The Institute would have three functions. It would identify and formulate specific resource development problems in the less developed countries and would perform multi-disciplinary analyses of these problems. It would serve as a clearinghouse for information on resource development technology, including the social and cutural aspects, and it would provide training in methods of analysis and research on these problems.

In carrying out these functions, the Institute should emphasize an experimental approach to the problems of innovation and communication involved in the introduction and adaptation of technology. The Institute would be under the aegis of UNESCO, and at least the main component of its headquarters staff would be provided by UNESCO. It is estimated that for the first 2 years support of this headquarters staff would involve an expenditure by UNESCO of about $250,000 per year or $500,000 for the 1965–66 biennium.

The principal expenditures of the Institute, perhaps amounting to several million dollars per year, would be through grants or contracts with universities and research organizations having competence in interdisciplinary analyses. The headquarters staff, working with representatives of the member governments, would select the

organizations to undertake particular tasks and would monitor, review, and attempt to insure the comprehensiveness, of the analyses.

Funds for contracts would be provided by the member governments in which the contracting universities or research institutes are located in the same manner as the individual governments support their own participation in the programs of the Intergovernmental Oceanographic Commission. The Institute for Resources Analysis would be somewhat analogous in its mode of operation to the International Institute for Educational Planning. Its programs would be laid out and agreed to by the member governments adhering to the Institute, and would be reviewed by the General Conference of UNESCO.

Criteria for UNESCO Science Activities

The National Commission recommends that the following criteria should be applied in making decisions to add new activities or to continue existing activities in the natural sciences program. These criteria may also be of some value to the other parts of UNESCO. Not all of these criteria have to be applied in every case, but they should all apply to the maximum feasible extent.

First, UNESCO activities should have merit, measured either by intrinsic scientific value or by relevance to the development of the less developed countries.

Second, where possible, they should be of an interdisciplinary character involving relations between fields, either (a) between different scientific disciplines or (b) between different aspects of intellectual life.

Third, projects should be those in which intergovernmental cooperation is required, especially in areas where the advancement of science depends upon the joint action of countries having different political, economic or social systems.

Fourth, UNESCO scientific activities should take into account the spheres of interest of other United Nations agencies.

Fifth, administrative capability in the subject area should exist in UNESCO, or should be provided.

Documentation in Science and Technology

Scientific and technological information is basic to education, research and development. This premise should be kept clearly in view in strengthening science and technology in less developed countries.

The established, traditional information systems, that is, the library, the abstracting and indexing services, of the developed countries are having difficulties in keeping abreast of the rapidly growing mass of scientific and technological literature. One result is that the scientist of the developed country may have only limited access to the new knowledge produced in his field.

In many fields, the scientists and technologists have not exercised adequate leadership in the solution of problems indicated by these first two statements, that is, problems of development and the problems of the scientists having access to information in the developed countries. One result of this is that librarians and documentalists have not had the aid from scientists and technologists that they need in their efforts to solve these problems.

The established UNESCO program in this field is oriented primarily toward the study of technical library and documentation problems and toward support of activities of general interest to librarians and documentalists. Continued study of such problems is useful. But the urgent need is for action programs that will deliver primary scientific and technical liter-

ature to individuals and organizations needing it.

The National Commission believes that the UNESCO staff should assume appropriate leadership in resolving problems relating to scientific and technical information, such problems as those posed by the U.N. Conference on the Application of Science and Technology for the Benefit of Less Developed Areas, as well as by the member countries and the nongovernmental organizations in science and documentation.

In light of these premises, the National Commission makes the following recommendations:

1. UNESCO because of its broad membership and widespread field offices is in a unique position to assist less developed countries in establishing information services in science and technology. Specifically with regard to the improvement of scientific documentation, the reports that have already been made by working parties—primarily scientific publications, abstracting and indexing periodicals and services, scientific translations and terminology, mechanization and coding in scientific documentation—should be reviewed by a panel of scientists and technologists charged with the responsibility of evaluation from the viewpoint of improved services to education in science, scientific research and technology. As specific problems are formulated, additional working groups should be created;

2. UNESCO should work closely with the International Council of Scientific Unions in identifying the information needs of scientists and technologists in both the developed and less developed countries in suggesting problems involved in meeting the needs;

3. UNESCO should refer emerging science information problems of an international character to the International Federation of Documentation, the International Federation of Library Associations, and the International Standards Organization. Maximum effort on the part of UNESCO must be expended to avoid diffusion and overlap of responsibility for problem solving and action programs. Particular emphasis should be placed on the barriers inhibiting the flow of literature, for example, copyright, currency, censorship barriers.

Second, the National Commission is concerned with coordination of scientific documentation at the national levels in less developed countries.

The Field Science Cooperation Officer should be given increased responsibility for the identification of needs for information and the recommendation of services to satisfy the needs of the less developed countries.

Third, in regard to assistance to member states in scientific documentation, much perspective on the problems of providing information to member countries may be gained by a review of the problems faced by established national centers such as Pakistan National Documentation Center (PANSDOC) and Indian National Documentation Center (INSDOC). UNESCO should initiate an intensive, short-range study by a group of scientists and technologists, based on a review of these problems.

Many mechanisms for providing the less developed countries with scientific and technological information from the world literature are available. Study of the most appropriate measures applicable to countries of different degrees of development should be made. UNESCO may wish to establish and operate experimental centers. Cooperation of the International Federation of Documentation, the Inter-

national Federation of Library Associations, and the International Council of Scientific Unions should be solicited.

The problems should be focused on the further development and expansion of programs that permit the scientist and technologist to keep abreast of scientific advance, to identify the documents required and to procure these documents. The whole thrust of all of these recommendations is to focus on the problems of the working scientist and technologist as opposed to the problems of the librarians. The present program for providing aid in the establishment of documentation centers should be expanded where shown to be desirable. UNESCO should, however, insist upon strong assurance that national support of the documentation center will be continued. Increased emphasis must be placed on the need for continuing services by UNESCO through the documentation centers established in member countries and regional cooperation between such centers.

Other alternatives for delivering information to the less developed countries must be developed. Such concepts as the following should be explored: Provision of core journals and associated services for delivery of documents; provision of core libraries of books, in microform where necessary, and a service for maintaining such libraries; and the establishment of improved international services to expedite delivery of documents, on request. In many cases, these may be made in microform.

Science Program Adjustments

On the basis of the criteria set forth above and following analysis of the present natural sciences program, but without prejudice to such conclusions as the National Commission may reach later in regard to the findings of any task force which the Executive Board may establish to consider the application of science and economic development, the National Commission recommends that the 1965–66 UNESCO program in natural sciences should be funded at a level of approximately $6 million, or approximately $1,650,000 more than the present level.

Specifically, the National Commission recommends increases about as follows: the international program in hydrology, $110,000; seismology and atmospheric sciences, $300,000; oceanography, $100,000; documentation, $160,000; science education, $200,000; science cooperation offices. $100,000.

Funds should be earmarked for new items as follows: $60,000 for support of the International Biological Program; $500,000 for new activities which might be considered in relation to a Department for Development; and $500,000 for administrative costs to be borne in the event of the establishment of an Institute of Natural Resources Analysis.

The National Commission recommends the following decreases: support for the program in cell biology and brain research should be transferred to the national committees as soon as possible. This would take about a 3-year period; in the meantime UNESCO should continue its support at about half the existing level—a decrease of $80,000. The space science program should be confined to support of the activities of COSPAR, resulting in the decrease of about $90,000. Assuming replacement by new activities in either a Department of Development or an Institute of Natural Resources Analysis, there should be a decrease of $70,000 in the Science policy budget and $30,000 in the aid to technological research. For the Arid Zone and Humid Tropics Program, there should be a decrease of $100,000.

These increases and decreases constitute a net increase of $1,660,000.

Subventions to Nongovernmental Organizations

For the sciences to be viable and productive, the cooperative effort of many nations in the extension of knowledge and the development of its applications requires the existence of mechanisms for the coordination of efforts within the international scientific community. UNESCO was established with foresight and imagination, as an appropriate vehicle for the collaborative effort of the governments of nations. In varying degrees of maturity, the international associations of physical, biological, and social sciences exist as such mechanisms within the private sector. The National Commission considers it to be essential that these associations be supported in a manner which will permit them to achieve a real partnership of effort with the intergovernmental agencies. This support is provided, for the most part, as contributions of individual nations through their national academies or learned societies or, alternatively, through multilateral subventions from UNESCO.

Recognizing that long tradition favors the former in the case of the natural sciences, that is, the national academies or learned societies, but that current necessity dictates the latter in the case of the more recently developed social sciences, that is, the UNESCO subvention, the National Commission believes that the desirable degree of unification among all sciences will be achieved most effectively by insuring a stable and continuing source of support for international scientific organizations through subventions as required for effective functioning by UNESCO.

Accordingly, the National Commission strongly urges that the United States adopt a position in support of these subventions by UNESCO as an integral and essential obligation continuing into the foreseeable future.

Survey of Research Trends in Social and Human Sciences

The National Commission does not offer any recommendations on this subject at this time. In the absence of adequate background information, Commission members participating in a discussion of this subject felt that the only thing that could be done at this time was to delay further action with the idea of watching closely what may develop along these lines.

CULTURAL ACTIVITIES

Decade of Development: Relationship to Cultural Activities

The National Commission is concerned about the lack of a clear definition of the term "Decade of Development" and regrets the almost complete neglect of cultural and spiritual factors in the existing documentation on this subject. The National Commission felt that in connection with the evolution of new nations UNESCO should try to cultivate a feeling of mutual appreciation both between developed and newly developing nations. This can be achieved through interest in and attention to the history and heritage of these nations and through further development by each new nation of its own image.

Recognizing that a great deal of the cultural activities in the Development program would naturally fall into the field of education, the National Commission recommends that educational materials be based on and appropriately reflect the national heritage of the user country.

The National Commission believes that the emphasis on the Decade of Development should not and does not mean the abandonment of the basic purpose of UNESCO—namely, to promote better international understanding through cultural exchanges. In this context, the National Commission recommends that more funds be assigned to the International Roundtable Discussions.

Subventions to Nongovernmental Organizations (NGO)

The National Commission urges the Department of State—

1. To support the practice of granting subventions to international nongovernmental cultural organizations when it is clear that needed funds are not available to these organizations from other sources, and where organizations concerned have provided proper justification for their requests.

2. To request beneficiary organizations to make every effort gradually to increase their own share in the financing of the activities for which UNESCO has granted a subvention, and to present evidence of such efforts and the results thereof.

The National Commission believes that these organizations are serving a very useful purpose in the promotion of international mutual understanding, that the work done by these organizations would not be carried out did they not exist unless UNESCO undertook to do so itself, and that this work can be accomplished more economically by the nongovernmental organizations under the present arrangement than if their activities were to be taken over by UNESCO itself. It was felt that UNESCO might well examine the Category A and Category B lists of organizations having consultative status with a view to possible additions or in some instances increases of subventions.

Third Major Project

In view of the impending completion in 1966 of the 10-year Major Project on Mutual Appreciation Between the Orient and the Occident, the National Commission urges that UNESCO provide in the 1965–66 program for careful phasing out of the project so as to insure continuation of those aspects of it which can usefully be incorporated in the regular cultural activities program. (The Commission has initiated steps for further specific examination of this problem and may submit supplementary recommendations at a later date.)

Modern Design and Traditional Style

The National Commission considered the desirability of UNESCO providing more stimulation and guidance to underdeveloped countries in utilizing the competences of artists, craftsmen, architects, and designers to create plans and construct buildings which are modern and functional but yet preserve the local elements associated with the traditional national style. Included also is the emphasis on design of interiors, furniture, book design, graphic arts, painting and industrial design. In this connection, the National Commission recommends:

1. That the United Nations be requested to take these factors into account in its programs of community development;

2. That UNESCO do the same in its program of giving advice to member states in educational buildings, including libraries and museums; and

3. That UNESCO prepare itself to respond to requests from the United Nations for aid in performing its community development role referred to in item 1 above,

by strengthening the staff of its Secretariat and by fostering development of the capacity of appropriate NGO's for such activity.

MASS COMMUNICATIONS

Development of Information Media

The National Commission reaffirms its belief in the great promise of the mass media to speed educational growth and to extend the benefits of knowledge and skill to millions of people in developing nations, thereby enabling them to move out of a traditional society and to participate effectively in a modern world. In this connection, it notes with satisfaction the action of the U.N. General Assembly in recognizing information media development as a necessity for economic growth, and, as such, an essential goal of the U.N. Development Decade.

In line with the General Assembly's action, the National Commission commends the special emphasis which UNESCO is giving currently to the development of information media and recommends that the Director General support a substantially increased budget request to assist in the development of adequate information facilities in Asia, Africa, and Latin America.

The recent UNESCO survey of the needs of underdeveloped countries for information media development reveals that 70 percent of the world's population lacks minimum standards of access to information facilities.

The National Commission, taking note of this appalling deficiency affecting some two billion of the world's people, urges increased effort by UNESCO to help these member nations develop their facilities in all the mass media, but with particular emphasis on radio and television, which have the potential to teach more things to more people in less time than all other devices.

The effect of underdeveloped information channels is to isolate a population so that its members are virtually unaware of the outside world. In this connection the National Commission commends the facilitation conference conducted by UNESCO in Bangkok and recently in Tunis to foster development of news agencies in Asia and Africa. As outcomes of these meetings, decisions were made to form associations of the news agencies in these countries for the purposes of promoting professional and technical cooperation among the news agencies in the country and to increase the flow of information within the countries and the region as well as to and from the world at large.

There is overwhelming evidence to indicate that investment in communication facilities for underdeveloped countries will ultimately increase the value of all other development investments. Nevertheless, the initial capital outlay for such communication systems is often large and frequently beyond the capacity of many nations to finance. This means that if UNESCO is able, through its various activities, to quicken the pace of acceptance of the new media in the emerging countries, their national efforts must be augmented with international aid.

UNESCO resources, even though vastly increased allocations for this purpose be made, can never be adequate to meet the needs for media development. Taking note of this situation, the National Commission suggests that UNESCO should make a greater effort to explore methods for low-cost financing of private or semi-private media facilities. Efforts should be made for cooperation with the business and industry communities, for the greater

involvement in helping to establish media facilities and in the employment of commercial facilities where they exist in these countries in the support of the UNESCO program.

Observing the manifold but inadequately financed activities in which the Department of Mass Communications is now engaged, the National Commission expresses concern regarding the possible dangers of spreading resources too thinly in the proliferation of projects, and recommends greater concentration of efforts in a limited number of activities in this field. In this way, modest resources can achieve greater thrust and accomplish more significant gains.

Media Technology for Educational Purposes

As an example of this approach, the National Commission strongly recommends that UNESCO take the leadership in establishing, in cooperation with foundations, member states, educational organizations and so on, a one-country comprehensive pilot project which would thoroughly test the application of educational technology in that country's developmental program. Such a project would call for a total involvement of the media in the formal and informal educational system and fully utilize in an integrated system the media resources of slides, films, tapes, records, printed materials, graphics, radio, and television to support and strengthen traditional methods of instruction.

Such a national field laboratory would test new educational techniques, new equipment, and various training methods in relation to the media in an effort to determine which methods and means can be best adapted to particular circumstances and situations. Accordingly the project would include a thorough program of research and evaluation, including careful cost accounting.

An all-out test of this nature, embodying complete involvement of the media in an educational program of a representative undeveloped nation, would afford a model from which a body of knowledge could be derived which would have general application for the development of the media in other emerging nations through the transfer of experience to like or similar circumstances in other areas.

In order to derive the greatest utility from such information for UNESCO and for the cooperating agencies, the empirical findings and expert judgments relative to the educational, engineering, logistical, and economic phases of this experiment would be made available on a continuing basis. The information deriving from this project, would, perhaps, for the first time, make possible a coherent policy and program of technical educational aid investment in developing nations.

Satellite Communications

The National Commission approves the decision of UNESCO to convene a meeting in Paris on the educational implications of satellite communications and urges that it persevere in efforts to insure that television and radio transmissions via such satellites include adequate provisions for educational, cultural, and scientific programs.

At the same time that it recognizes the potential significance of communication satellites for advancing the free flow of information around the world and the possibility of drawing the cultures of the world closer together in a global communications net, the National Commission wishes to point out that there are dangers in promoting or allowing to develop naive notions about satellite uses which are

quite divorced from reality. Though we may ultimately achieve a global communication system, this is far in the future and must be preceded by a tremendous program of research and development, for there are vast problems to be resolved in the economics, technology, organization and utilization of satellite communications.

It is unlikely, for example, that man's ancient dream of universal education can be brought about through unlimited educational transmission over a worldwide system of satellite communications.

Uninformed expectations of satellite uses in education must not be allowed to delay or disrupt the orderly evolution and development of conventional communication systems in the service of education—systems which satellite communications by no means make obsolete. A jet airplane carrying video tape for delayed broadcast on another continent can compete in timeliness with direct satellite telecasts, which often would arrive at inappropriate times for reception and would thus have to be stored for delayed rebroadcast or delayed for translation into another language. Moreover, reception on home receivers would depend for many, many years upon relay systems of conventional ground-based radio and television facilities.

Communication satellites fire the imagination; they are exciting, and they are glamorous, but they offer no swift easy way to wipe out ignorance on a global scale and achieve world literacy. In the distant future they may have some practical educational applications, but meanwhile UNESCO is well advised, in the National Commission's judgment, to concentrate on understanding how to use our present communications technology and in helping underdeveloped areas of the world establish their own communications systems as a solid base for achieving national literacy and educational development.

Report on UNESCO Publications

The Commission agreed with the Acting Director General that (1) publications constitute one of the most important aspects of UNESCO's work, and (2) that a statement of policy governing publications should be adopted by the General Conference.

After careful study, the Commission made the following recommendations for consideration in formulating such a policy directive:

1. UNESCO should publish in fields which are clearly within its scope and competence and where the publication contributes to the attainment of the objectives of UNESCO.

2. Abusive or biased statements should be avoided and the normal rules of objective and judicious writing should prevail in all of UNESCO's publications.

3. Authorship of all publications other than official position statements should be clearly stated and individual authors should be recognized competent in their field.

4. Careful distinction should be made, by format and by specific disclaimer between publications presenting official positions to which UNESCO is formally committed and publications reporting conference or committee discussions or individual statements or documents with which UNESCO is not necessarily in agreement.

5. UNESCO should use in its tabulations the best statistical data from any sources available to UNESCO and should continue its outstanding work in the development of fact-gathering and fact-handling procedures. The sources of data used in any publication should be clearly indicated.

6. UNESCO should set up an advisory board within the Secretariat, directly responsible to the Director General, and made up of the heads of all departments concerned with publications. The primary purpose of such a board will be to make sure that manuscripts submitted to it meet the above criteria or should be rejected or reviewed. The secondary purpose of the board will be to advise the Director General on the general scope and nature of the publications program as a whole.

The Commission considered and rejected proposals for an automatic review board and a general editor, as well as any board that would operate independently of the Director General.

The Commission recognized that while in some cases, a useful distinction could be made between publications of facts (such as statistical studies) and publications of ideas which argue a point of view, this distinction is at best tenuous in some publications. The Commission felt, for instance, that the mere selection of certain facts and the omission of others reflects a point of view. On the other hand the Commission felt that conflicting views should be presented in a scholarly and objective way on the same basis as statistics can be.

U.S. National Commission for UNESCO Membership

(As of October 1, 1963)

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Frederick H. Burkhardt
Mrs. Harold C. Case
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